

PALESTINE EXPLORATION QUARTERLY

Embodying the *Quarterly Statement*
of the Palestine Exploration Fund
and the *Bulletin* of the British
School of Archæology in Jerusalem

PRINCIPAL CONTENTS

	Page
The Sixteenth Annual General Meeting of the British School of Archæology in Jerusalem - - - - -	14
The Modern Geography of Palestine. By Lt.-Col. F. J. Salmon - - - - -	33
The Chronology of Palestinian Epigraphy. By T. H. Gaster - - - - -	43
The Tabgha Mosaics - - - - -	59
The Trephined Skulls from Lachish. By the Rev. J. W. Jack - - - - -	62
The Troglodytes of Gezer. By G. E. Wright - - - - -	67

JANUARY 1937
SIXTY-NINTH YEAR

PUBLISHED AT THE OFFICE OF THE FUND
2 HINDE STREET, MANCHESTER SQUARE, LONDON, W.1

THE WILDERNESS OF ZIN

By

C. LEONARD WOOLLEY & T. E. LAWRENCE

With a chapter on the Greek Inscriptions by
M. N. TOD

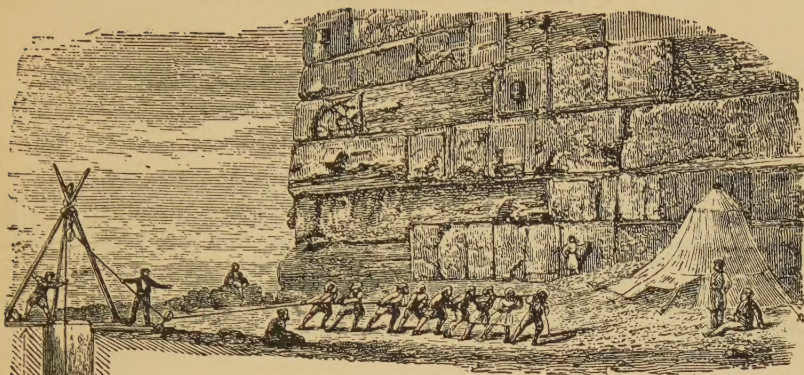
SIR FREDERIC KENYON in the Introduction states:—

The Wilderness of Zin was first published as the Annual of the Palestine Exploration Fund for 1914-15. In view, however, of the subsequent careers of its two authors, and of the literary merit which adds charm to the description of a country of no little biblical and historical interest, it seems to deserve a wider publicity than the proceedings of a learned society.

Crown 4to. with 64 half tone illustrations, 32 Greek Inscriptions, 2 maps and 58 illustrations in the text. 166 pages, 18s. net.

Published by MESSRS. JONATHAN CAPE, this book is sold by the

PALESTINE EXPLORATION FUND, 2 Hinde St., London, W.1



Palestine Exploration Fund

A SOCIETY FOR THE ACCURATE AND SYSTEMATIC INVESTIGATION OF THE ARCHAEOLOGY, THE TOPOGRAPHY, THE GEOLOGY AND PHYSICAL GEOGRAPHY, THE MANNERS AND CUSTOMS OF THE HOLY LAND, FOR BIBLICAL ILLUSTRATION.

FOUNDED 1865

Patron:

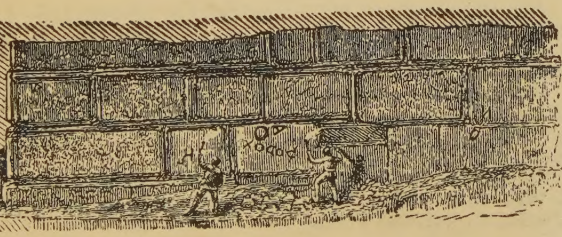
HIS MAJESTY THE KING

President:

HIS GRACE THE ARCHBISHOP OF CANTERBURY

Vice-President:

HIS GRACE THE ARCHBISHOP OF YORK



PALESTINE EXPLORATION FUND

Executive Committee.

Chairman—COL. SIR CHARLES F. CLOSE, K.B.E., C.B., C.M.G., F.R.S.

Hon. Treasurers—COL. STEWART F. NEWCOMBE, D.S.O.

SIR ROBERT L. MOND, LL.D., M.A., F.R.S.E.

Hon. Secretary—REV. C. B. MORTLOCK, M.A.

PROF. STANLEY A. COOK, LITT.D., F.B.A.

O. G. S. CRAWFORD, ESQ., M.A., F.S.A.

J. W. CROWFOOT, ESQ., C.B.E., M.A.

PROF. J. GARSTANG, M.A., D.Sc., F.S.A.

PROF. S. H. HOOKE, M.A., B.D. (*Editor*).

SIR FREDERIC G. KENYON, G.B.E., K.C.B.,

D.LITT., LL.D., F.B.A.

A. M. HYAMSON, ESQ., O.B.E.,

F.R.Hist.S.

SIR CHARLES MARSTON, F.S.A.

E. W. G. MASTERMAN, M.D., F.R.C.S.

PROF. J. L. MYRES, D.LITT., M.A., F.B.A.

THE RIGHT REV. THE LORD BISHOP OF ROCHESTER.

SIDNEY SMITH, ESQ., M.A., F.S.A.

BRIG.-GEN. E. M. P. STEWART OF COLL,

C.B., C.B.E., F.R.G.S.

General Committee.

NORMAN BENTWICH, ESQ., O.B.E., M.C.

BRITISH GUIANA, THE BISHOP OF

THE REV. PROF. G. A. COOKE, D.D.

PROF. GUSTAV DALMAN, D.D., Ph.D.

G. R. DRIVER, ESQ., M.A.

THE VERY REV. THE DEAN OF ELY.

G. M. FITZGERALD, ESQ., M.A.

FRANK FREMLIN, ESQ.

ADMIRAL SIR W. GOODENOUGH.

THE RIGHT REV. G. F. GRAHAM-BROWN,

O.B.E., Bishop in Jerusalem.

VEN. ARCHDEACON J. HEALY.

VERY REV. J. H. HERTZ, D.D., The Chief Rabbi.

REV. J. W. JACK, D.D.

REV. PROF. A. R. S. KENNEDY, D.D.

VISCOUNT LEE OF FAREHAM.

SIR HARRY C. LUKE, C.M.G., M.A.

PROF. R. A. S. MACALISTER, LITT.D.

LIEUT.-GEN. SIR GEORGE MACDONOGH,

G.B.E., K.C.B., K.C.M.G.

GEORGE MATHIESON, ESQ.

VERY REV. THE DEAN OF NORWICH.

JAMES R. OGDEN, ESQ.

LIEUT.-COLONEL PEAKE, C.B.E.

STEWART PEROWNE, ESQ.

H. PIRIE-GORDON, ESQ., D.S.C., M.A.

LORD ROLLO.

RT. REV. THE BISHOP OF SALISBURY.

T. J. SALMON, ESQ., M.C.

VERY REV. SIR GEORGE ADAM SMITH,

D.D., LL.D., F.B.A.

THE REV. PROF. W. B. STEVENSON, D.D.

SIR RONALD STORRS, K.C.M.G., C.B.E.

THE BISHOP OF TRURO.

GEORGE CHARLEWOOD TURNER, ESQ.,

M.C., M.A.

LADY WATSON.

REV. PROF. ADAM C. WELCH, D.D.

PERCY D'ERF WHEELER, ESQ., M.D.

THE VERY REV. A. T. P. WILLIAMS, D.D.,

Dean of Christ Church.

Assistant Secretary—G. J. H. OVENDEN.

Office—2 Hinde Street, Manchester Square, W.1. (Tel. Welbeck 5379.)

Bankers—MESSRS. COUTTS AND Co., 16 Cavendish Square, London, W.1.

The privileges of Subscribers are as follows :

Annual Subscribers of *One Guinea* (£1 : 1 : 0), or more, will receive the *QUARTERLY*, they have also the privilege of purchasing the publications of the Fund and of the British School of Archæology in Jerusalem at reduced prices. The *PALESTINE EXPLORATION QUARTERLY* is a journal which records the progress of excavations and matters of interest relating to Palestine.

Annual Subscribers of not less than *Two Guineas* (£2 : 2 : 0) to either the Palestine Exploration Fund, or the British School of Archæology in Jerusalem, or of One Guinea to each, will receive the *QUARTERLY* and the *Memoirs and Annuals* of both institutions as published gratis.

SUBSCRIPTIONS AND INCOME TAX. Subscribers who covenant to pay their subscriptions regularly for a period of seven years to cease at death, enable the Fund to benefit by the recovery of Income Tax thereon. A suitable form of Covenant can, if desired, be obtained by application to the Secretary.

Subscribers in the United States of America may remit to the National City Bank, 55 Wall Street, New York, with instruction to credit Messrs. Coutts & Co., for Palestine Exploration Fund.

CONTENTS

	PAGE
NOTES AND NEWS	7
THE SIXTEENTH ANNUAL GENERAL MEETING OF THE BRITISH SCHOOL OF ARCHÆOLOGY IN JERUSALEM	14
DESCRIPTION OF FRONTISPIECE AND PLATES I AND II ..	31
THE MODERN GEOGRAPHY OF PALESTINE : BY LT.-COL. F. J. SALMON	33
THE CHRONOLOGY OF PALESTINIAN EPIGRAPHY : BY T. H. GASTER	43
THE TABGHA MOSAICS	59
THE TREPHINED SKULLS FROM LACHISH : BY THE REV. J. W. JACK	62
THE TROGLODYTES OF GEZER : BY G. E. WRIGHT	67
REVIEWS AND NOTICES	79

LIST OF ILLUSTRATIONS

FRONTISPIECE

PLATE I.: THE VALLEY OF MICHMASH after 32

PLATE II.: GEOLOGICAL EXPEDITION TO THE WADY
ARABAH „ 32

THE CHRONOLOGY OF PALESTINIAN EPIGRAPHY II—

PLATE III.: THE TELL DUWEIR BOWL „ 56

PLATE IV.: THE CHRONOLOGY OF EARLY PALES-
TINIAN SCRIPTS „ 56

PLATE V.: THE SINAITIC INSCRIPTIONS „ 56

THE TABGHA MOSAICS—

PLATE VI.: THE TABGHA MOSAICS „ 60



Digitized by the Internet Archive
in 2025



FRONTISPIECE
(*for description see p. 31*)

QUARTERLY STATEMENT, JANUARY, 1937.]

THE
PALESTINE EXPLORATION FUND

NOTES AND NEWS

THE KING'S PATRONAGE
OF THE PALESTINE EXPLORATION FUND

His Majesty King Edward VIII was graciously pleased to grant his patronage to the Palestine Exploration Fund, as appears from the following letter addressed to the Archbishop of Canterbury, President of the Fund:

PRIVY PURSE OFFICE,
BUCKINGHAM PALACE, S.W.

13th October, 1936

Your Grace,

I have laid before the King your letter of the 10th October, asking whether His Majesty would be pleased to grant his patronage to the Palestine Exploration Fund. I am commanded to inform you in reply that the King will very gladly give his patronage to the Fund. His Majesty is well aware of the value of its work.

I am, Your Grace,

Yours very sincerely,

ULICK ALEXANDER

The Most Reverend
His Grace the Lord Archbishop of Canterbury.

His Majesty King George VI has been graciously pleased to continue the patronage granted to the Palestine Exploration Fund by King Edward VIII, and the President has received the following Memorandum from the Privy Purse Office :

**PRIVY PURSE OFFICE,
BUCKINGHAM PALACE, S.W.**

MEMORANDUM

The Keeper of the Privy Purse is commanded by the King to state that His Majesty is pleased to intimate to those Societies and Institutions which were recently granted Patronage by King Edward VIII, that they may continue to show the Sovereign as their Patron during the present Reign, unless otherwise notified.

14th December, 1936.

THE change which readers of this journal will observe in its outward form has been the subject of much careful consideration by the Executive Committee of the Fund. The QUARTERLY STATEMENT has had a long and honourable history, of which the frontispiece to this issue will serve as a reminder, and its contributors include many names distinguished in various fields of service to the British Empire. But the changed outward form of the QUARTERLY STATEMENT implies no break with its past history and traditions. Nevertheless the change is not without significance. On the one hand it is hoped that the new cover and size, embodying something of the modern advance in design and type-setting, may be found attractive to our readers, and help to make new friends for the journal. On the other hand it has been the desire of the Executive Committee that subscribers should in future receive a larger and better journal for their money. There is no thought of diminishing the space hitherto devoted to the records of original work in exploration and excavation in Palestine and related fields, and to discussion of archaeological and epigraphical material. But it is intended that there shall be a broadening out of the field hitherto covered

by the QUARTERLY STATEMENT to include articles on geographical and geological aspects of Palestine, on the flora and fauna, on the Arabs and their history, and many other subjects of interest to students of Palestinian affairs and problems. Nor will it ever be forgotten that one of the foremost interests in the minds of those who founded the fund was the connection between Palestine and the Bible, and one of the main objects of this journal will continue to be the recording of every fresh discovery which throws new light on Bible history.

May we express the hope that those who have found the journal in its old form a source of interest will endeavour to secure new friends for it in its new form.

An historical interest attaches to three of the illustrations published in this issue of the QUARTERLY STATEMENT (Frontispiece and Plates I and II). The first two are taken from Lieut. H. H. Kitchener's *Photographs of Biblical Sites*, a series of twelve photographs and descriptions published in 1876. The photographs were taken by the late Lord Kitchener during the first part of his work with Lieut. Conder on the Survey of W. Palestine from November, 1874, to June, 1875. The third illustration is from a hitherto unpublished photograph taken in Mt. Sinai during the Geological Expedition and Survey of the Wady Arabah, 1883-4, and shows five members of that expedition, the sixth being Reginald Lawrence who took the photographs.

In Miss Garrod's presidential address to the Anthropological section of the British Association at Blackpool in September of this year, the palæolithic flint industry of Palestine assumes a new and unsuspected importance as a possible link in the spread of certain phases of that industry from the East into Europe and Africa. We are already familiar with many facts which point to the spread of culture from the near Eastern area westward between the 4th and 2nd millenniums B.C., and it is interesting to learn that this westward movement of civilization may have begun far earlier than had previously been thought possible. Incidentally, Miss Garrod points out that new knowledge has destroyed the old simplicity of the view laid down in the Musée Pré-historique, in which the Palæolithic cultures appeared as a

straightforward succession from Chellian to Magdalenian. A somewhat similar change has been taking place in the attitude of modern scholarship to the historical criticism of the Old Testament in the light of archæological discoveries.

M. André Parrot's excavations at Mari, referred to in an earlier issue of this journal, continue to yield material of first-rate importance. From the royal archives in the palace have come about 15,000 cuneiform tablets among which M. Thureau-Dangin has recognized important texts containing the diplomatic correspondence of the last king of Mari, Zimri-Lim, whose palace was destroyed by Hammurabi about 2000 B.C. Some of the objects discovered at Mari are similar to those found at Asshur, Ras Shamra, and in Cyprus, indicating that Mari was on the great commercial route, which was frequented as much in the 2nd millennium B.C. as in the 3rd. It is interesting to note, considering that the migration of the Terahites is often dated in the time of Hammurabi, that the route followed by the patriarchs Terah and Abraham of Ur, going towards Harran, probably passed by Mari, and that the time of their migration was precisely in the palace epoch.

The Iraq Expedition of the Oriental Institute of Chicago University, under Professor Frankfort, has had a profitable season. Two objects of special interest are reliefs dated by Professor Frankfort at about 3000 B.C. The first is a representation of a Babylonian god slaying a figure with a human body whose head is a one-eyed solar disc with rays. It may possibly be a representation of some form of the myth of Gilgamesh and Humbaba. But its special interest lies in the suggestion that it presents us with the origin of the Cyclops myth. The second relief contains a fine representation of a humped bull, the sacred *bos indicus*, and affords further evidence of a link between Sumerian culture and the culture of the Indus valley. On the same relief, which is on a steatite vase, there is an unmistakable representation of a Sumerian, showing that the vase is of Mesopotamian origin.

Remarking on the problem raised by this discovery, Professor Frankfort writes: "The clue is to be found perhaps among the discoveries made by Sir Aurel Stein in his recent

explorations in Baluchistan and Southern Persia. It seems certain that the regions separating India and Mesopotamia were much less arid about 3000 B.C. than they are now, and that we must take into account not only the sea-route by which trade might be carried on, and which has been almost exclusively the only means considered hitherto, but also the existence of a cultural continuum eastwards from Mesopotamia down to the very borders of India."

In the latest issue of the *Quarterly of the Department of Antiquities* in Palestine there is an account of interesting discoveries made in the course of superficial clearances in the courtyard of the old castle of Jerusalem, generally known as the Citadel. Buried beneath the foundations of the Citadel there were found the remains of an older line of fortifications consisting of strong walls with as many as eight undisturbed courses at one place. There appears to have been an ancient line of fortification crossing the courtyard of the present castle and consisting of two towers which with the north-east or David's Tower would lie on a curve connected by two very big curtains. Such a line clearly formed no part of the existing Turkish or Mameluke castle, and it must have an ancient history, as its depth and massive style tend to show. It includes some masonry that is very similar to the fortifications of ancient Samaria, and the foundations are several metres below a slope of accumulated rubbish similar to that encountered recently on the western slope of Mt. Zion. The conclusion is that it probably dates from the time of the Jewish kings.

Recent important discoveries have also been made on the site of Beth-Shearim, the modern Sheikh Abreik, about five miles west of Nazareth. The existence of ancient vestiges has been suspected ever since Conder and Kitchener, surveying the country on behalf of the Palestine Exploration Fund, found a delineation of a "menorah" or lampstand, which however they listed as a tree. The present discoveries were due to the chance exploration by a boy of a fox hole, which he found led down into a passage cut in the rock. Investigations by Maisler and Schwabe brought to light the existence

of catacombs similar to those of Alexandria, dating from the early Christian centuries. The catacombs are very extensive and will probably require several years to excavate. Many inscriptions in Aramaic, Palmyrene, and Hebrew have come to light, as well as two marble tablets, fifteen different types of the "menorah" design, columns reminiscent of those of Capernaum, pictures of the Ark of the Law, large oil jars, and, strange to say, of Charon's boat. The whole culture is Hellenistic, and is a very good example of that mixture of Greek and Jewish ideas which was so prevalent in those early ages.

Professor Garstang has been visiting Turkey and North Syria to study the relationship between the archæology of Palestine and Asia Minor and North Syria in the middle Bronze period, with the object of filling the gap of evidence which exists between 1600 and 1800 B.C. He has been inspecting sites with a view to excavation.

Friends of the fund will be glad to hear of the honour which has been paid to Sir Robert Mond in France. The Académie des Inscriptions et Belles Lettres, being called upon to elect a foreign Associate Member in the place of the late King Fuad, has chosen Sir Robert Mond. A French journal remarks appropriately: "To the late King of Egypt there succeeds an experienced Egyptologist who, by virtue of more than thirty years of researches and brilliantly successful excavations, occupies the position of President of the Egypt Exploration Society."

A PRIZE of £50 is offered for an essay in English on some archæological or ethnographical (not mainly linguistic or literary) subject connected with Prehistoric or Pharaonic Egypt.

The essay should show original research. The words "archæological," "ethnographical" are to be interpreted in the widest sense. The subject may be selected by the candidate himself, and the essay should be illustrated by as much comparative matter as possible from other lands, whether ancient or modern. The utmost use should be made of photographs and drawings.

The prize will be awarded only if the work is of sufficiently high standard to warrant it.

Mr. K. de B. Codrington, Dr. Margaret A. Murray, and Mr. G. A. Wainwright have kindly consented to act as adjudicators.

The candidate may be of either sex and of any age. The essays should bear their title, and should be accompanied by a covering letter. Only the covering letter, *not the essay*, should be signed. Essays must be typed, and must be sent in before 31st December, 1937, to Mr. J. H. Hay, Solicitor, 29 Bedford Square, London, W.C.1, who will give each essay a number and forward it to the adjudicators. Other correspondence should be addressed to Mr. G. A. Wainwright, 26 Elm Park Gardens, London, S.W.10

The Executive Committee wish it to be understood that, whilst desirous of giving publicity to proposed identifications and theories advanced by contributors to the PALESTINE EXPLORATION QUARTERLY, they do not necessarily accept them as correct.

BRITISH SCHOOL OF ARCHÆOLOGY IN JERUSALEM

THE SIXTEENTH ANNUAL GENERAL MEETING of the School was held on Tuesday, November 24, 1936, at the Rooms of the Society of Antiquaries, Burlington House, London, W.1. The President, Sir Frederic Kenyon, presided over the Business Meeting of Subscribers. The Chair at the Open Meeting was taken by The Rt. Honourable W. Ormsby-Gore, M.P., Secretary of State for the Colonies. At this meeting Mr. P. L. O. Guy, Director of the School, described the proposed Archæological Survey of Palestine.

MINUTES

PROF. J. L. MYRES (Hon. Secretary) read the Minutes of the Meeting held on January 15, 1936, and these were confirmed and signed by the President.

REPORT AND ACCOUNTS

PROF. MYRES, in moving the adoption of the Report and Accounts for the year 1935-6, said that Mr. Guy, the new Director of the School, had been in residence in Jerusalem for the greater part of the year. As there had been no excavation carried on by the School the Director had been able to do valuable work in other directions, especially in revising and improving the School's library and in preparatory studies for the Archæological Survey of Palestine which the School had undertaken in conjunction with the Palestine Exploration Fund. On the other hand, there had been a certain amount of field work. The Colt Archæological Expedition had had an exceedingly interesting season ; first at Sbeita and then, when the water-supply there ran out, the Expedition made the most of the disaster by moving to the nearest water-bearing site at Auja. There, in the course of clearing buildings adjacent to

one of the Byzantine churches, the Expedition was fortunate enough to make an interesting discovery of papyri of the sixth to seventh centuries in an unusually good state of preservation, the majority Greek, some Arabic, some bilingual. Those papyri were now being deciphered by Professor Kramer at the University of New York. There would have been excavation on a palæolithic site in the extreme south, and a portion of the Mond Studentship Fund had been placed at the disposal of Miss Joan Crowfoot for that purpose, but circumstances were unfavourable, and the grant had been held over till another year.

For a variety of reasons the income of the School was, unfortunately, appreciably less than last year. Several old subscribers had passed away; the grant from Manchester University and one or two others had been reduced. As the Accounts stood, things looked a little worse than they actually were, because Glasgow University had remitted its grant of £20 to Jerusalem instead of to the London Account. Thus £20 should be added to the total of £561. Nevertheless, the position was indeed serious. The School could just carry on, maintain its Director and the absolutely necessary expenditure on the library, and London office. It was really a very serious matter that the circle from which the School drew its support remained so narrow, in spite of the extremely valuable work the School had carried out, not only for archæological science, but as a centre of information available to all and of interest in Palestinian studies.

All would join in an expression of gratitude to the Honorary Treasurer, Sir Robert Mond, who had not only made a generous contribution to the General Fund, but had put at the disposal of the School £200 for the reorganization of the library and, in particular, for revision and completion of the School's very valuable sets of periodicals.

As to the items "Unvouched expenditure" on p. 9 of the Accounts, it had not been possible, owing to an accident, to bring to London the vouchers for certain items. The Accounts had not yet been to the Auditors and these vouchers would be submitted in due course.

THE PRESIDENT put the motion for the adoption of the Report and Accounts to the vote and declared it carried.

Election of Officers.—MR. W. H. BOULTON proposed the re-election of Sir Frederic Kenyon as President, Sir Robert Mond as Honorary Treasurer and Professor J. L. Myres as Secretary. SIR EDGAR BONHAM CARTER seconded the proposition and it was carried unanimously.

Election of Council Members.—PROF. J. L. MYRES proposed that the following be elected to the Council for a period of three years from October, 1936 : Sir Edgar Bonham Carter, The Rev. Canon H. Danby, Regius Professor of Hebrew at Oxford, Mr. G. R. Driver, Fellow of Magdalen College, Oxford, and Professor Bernard Ashmole, Yates Professor of Classical Archæology, University College, London. The proposition having been seconded, was put and carried unanimously.

Election of Auditors.—On the motion of Professor J. L. MYRES, seconded by Mr. J. W. CROWFOOT, Mr. A. M. Hyamson and Colonel S. Newcombe were elected as Auditors.

THE RT. HON. W. ORMSBY-GORE, M.P., Secretary of State for the Colonies, presiding at the opening meeting of subscribers and friends of the School, said : Ladies and Gentlemen,—You have asked me to preside at this Annual Meeting, and I do so with much pleasure. Until a few months ago it was my good fortune to serve in the office of First Commissioner of Works, a post which I held for over four years. That office brought me into contact with the State's responsibility for the care and conservation of national monuments and archaeological remains and with the control of excavation in this country. My responsibility, as executive head, for the administration of the Ancient Monuments Act convinced me not only of the national asset which these monuments and archaeological sites constitute, but of the duty of modern governments to do more than they have done in the past as regards conservation of national monuments and the encouragement of scientific archaeological research. Thanks to the personal interest of the present Chancellor of the Exchequer in this subject, I was able to obtain from him a rather more liberal financial provision for the administration of the Ancient Monuments Act than has been forthcoming in the past. When I recall the difficulties which Lord Avebury, when he was Sir John

Lubbock, M.P., encountered in the days of my boyhood in getting the first tentative Ancient Monuments Act through Parliament as a Private Member's Bill and the fact that it was not until the year before the war, 1913, that the Government of Great Britain established any adequate or effective department for dealing with these matters, I note the welcome change of attitude that has come over the scene in recent years. A public conscience has at last been aroused to the fact that man does not live by bread alone, and that governments have a duty in archæological matters which is no less a duty than the provision for social and material progress and welfare.

That the lessons I learned as First Commissioner of Works will not be forgotten at the Colonial Office is my only assurance to you this afternoon. In Malta, in Cyprus, in Palestine, in Ceylon, we have the most important remains of the ancient history and civilization of those countries. While a beginning has been made in all of them to bring colonial responsibilities into line with the newer outlook of the United Kingdom, I still feel that much remains to be done ; but whereas as First Commissioner of Works I was disposing of funds granted to me by Parliament for the purpose, as Secretary of State for the Colonies I have no such direct control, and I have to endeavour to persuade colonial governments forming their budgets, and their taxpayers also, to make more adequate provision for such service. I fully realize, especially in the case of the countries I have mentioned, that there are many claims—especially in Palestine consequent on the recent tragic and most expensive disturbance—on the funds available ; but, as, happily, I know the present High Commissioner of Palestine is in full sympathy with my hopes in this matter and with yours, I trust that when we are in a better position to assess what is possible this question will again be re-examined in all its aspects.

I know that it has been in the past a subject of reproach to Britain that in comparison with the lavish expenditure of other countries, notably Italy and France, on the restoration of archæological work of various kinds, our expenditure has appeared mean. While there is some truth in this, I hope we shall not rush from one extreme to the other and embark upon a policy of over-restoration and of hurried and even tendentious exploration designed to produce spectacular results often

for purely teleological ends. The bottle-neck in sound progress is the supply of men, and nowadays of women, to whom you can confidently entrust the very responsible and delicate duties both of conservation and of modern scientific excavation with its rightly high standards of technique. That our standard is high is due as regards conservation to the tradition established at the Office of Works by Sir Charles Peers and the similar traditions even longer established by the British Museum, by the Society of Antiquaries of London and by the two famous British Schools of Archæology in Athens and Rome. Fortunate are we, therefore, that these two older schools—the Athens School celebrating its jubilee this year—have been followed since the war by the creation of a third school in Jerusalem. Before people should be allowed to be let loose on historic sites it is essential that they should be intellectually equipped with the knowledge and art both of conservation and excavation. The archæological school is therefore a fundamental prior requisite of all that may follow. Your School has already made important contributions to knowledge in the early pre-history of Palestine of which the “Galilee Skull” is the most famous find, and in your work, plans and discoveries at Jerash.

Of all countries under British rule, Palestine, the Holy Land of three faiths, is the most international in character and as mandates we are trustees for all the nations of the League on whose behalf we administer that historic land. Before Judaism, Christianity and Islam arose and spread through the world, Palestine by reason of its unique geographical position as the bridge between Asia and Africa, had a long history and an even longer pre-history. Its very name recalls those mysterious people, the Philistines. The Egyptian and Hittite emperors fought, colonized and shaped some of its early civilization. Before either of them there were the as yet dimly discerned occupations of the Early Bronze and Neolithic Ages, and, thousands of years before even these, layer below layer, are the remains of Paleolithic Man.

Turning to the other direction of the time-scale, the impact of the Israelites, the Greek Empire of Alexander and his successors and their influence in Hellenizing the Eastern Mediterranean, followed by the Romans, the Nabateans, the

Sassanian Persians, the Arabs, even the Druses, the Frankish Crusaders, the Kurds under Saladin, the Mamelukes of Egypt, the Turks under Suleiman the Magnificent, have all left their mark, left some visible evidence of their occupation of that wonderful little country which conforms more than any other to the drama of human history and has been the scene of the evocation of man's highest religious and poetical imagination.

Amid the grave anxieties of our political difficulties, which are at this moment the responsibility of a very able Royal Commission, let us remember the large heritage of human endeavour which has led, by a strange process of history, this, our island in north-western Europe, to become charged not merely with the heavy burden of government of that difficult country, but with the duty of conserving more worthily the records of Palestine's illustrious past. With all too much that is tendentious and troubling us in this modern world, let us remember that the true scholar, whose only aim is the search for objective truth, has many lessons to teach politicians—nay, nations as a whole—and that among these scholars there is none more worthy of attention and encouragement than the archæologist, whatever his race or creed, provided he is inspired by that zeal for truth and for learning for its own sake. It is because that is the standard of your School that it gives me the greatest pleasure to take the Chair at your Annual Meeting this afternoon. (*Applause.*)

MR. P. L. O. GUY, Director of the School : Mr. Chairman, Ladies and Gentlemen,—The Palestine Exploration Fund, which was founded in 1865, has a very long and honourable record of investigation in Palestine, and of publication of its results. One of its earliest ventures was a Reconnaissance of Western Palestine and a partial survey of that country made by Captain Wilson in 1865–6. That was followed by an exploration and survey of the southern desert by Palmer and Tyrwhitt-Drake in 1870–1, but even after that there was no complete map of the country. Although many travellers had visited Palestine, very many isolated sites had rarely been seen. Journeys were mainly confined to well-established routes and while information had been gathered about these,

sites off the usual routes had not been examined and there were very many blank spaces.

The Fund realized that a proper survey was needed, and it made an appeal for that in *The Times* of November, 1871. But much more than a map was undertaken, and much more was accomplished. The terms of reference were as follows:

The objects of the present expedition to Palestine are :

1. To obtain an accurate map of the country, on which, in addition to the topographical features, shall be laid down the sites of all towns, villages, ruins, roads, etc.

2. To collect, as far as possible, the native names and traditions connected with the various places.

3. To make tentative excavations where necessary.

4. To carry on a series of meteorological observations.

5. To make such notes as may be possible on the geology of the country, its botany, zoology, etc.

6. To take any opportunity which may offer of making excavations at Jerusalem, which will lead to decisive results.

7. To examine and make plans and drawings of interesting archæological remains in the country.

8. To carry out generally the scheme which has been proposed in the several prospectuses issued by the Committee.

The Survey of that portion of Palestine lying on the west of the River Jordan is to be regarded as the principal object of the expedition. The American Palestine Exploration Fund, working side by side with us, will undertake the survey of the country lying on the east of the Jordan.

You see, they set themselves a very large task. As to personnel, they already had Mr. Tyrwhitt-Drake in the country, and in November, 1871, three Royal Engineers were sent out : Captain Stewart, Sergeant Black, and Corporal Armstrong. Unfortunately, Stewart fell ill very shortly after his arrival in the country and had to be invalided home at the beginning of the following year. He was unable to return.

However, Tyrwhitt-Drake and the N.C.O.s went on with the work provisionally and they carried out the task of setting out the base line near Ramleh, not far from Jaffa.

Shortly after that the Fund found a new Royal Engineer officer, and in July, 1872, Lieut. Conder was sent out to take charge. He and Tyrwhitt-Drake carried on until July, 1874, when Drake died, at the age of twenty-eight, of exposure and malaria contracted in the work of the Survey. A few months later, in November, 1874, a new member went out in the shape of Lieut. Kitchener. He joined the staff at Dhaheriyeh, between Hebron and Beersheba, and I sometimes think it would not be amiss if a small stone were set up there to mark the point where Kitchener's activities in the East first began.

In October, 1875, Kitchener and Conder, with the rest of their party came back to England under circumstances which I shall presently relate, and in January, 1877, Kitchener returned to Palestine without Conder, but with three N.C.O.s and completed the Survey by September, 1877. The whole work was ready for publication within seven years of its commencement, that is to say, by September, 1878.

The map that they made consisted of twenty-six sheets on a scale of 1-inch to the mile. The sheets covered some 6,000 square miles, running from Dan to Beersheba. Of that Conder was chiefly responsible for 4,700 square miles and Kitchener for 1,300. That map has been, and still is, indeed, for many purposes the standard map of Palestine. But the Survey was much more than a map. For each sheet there was a memoir. Kitchener wrote five of those memoirs and Conder wrote the rest. In every memoir there were three sections :

- A. Geographical and topographical description. All villages described.
Subheads : Orography, Hydrography, Topography, Cultivation, Identification of ruined sites.
- B. Archæology. Detailed descriptions of ancient remains, with plans, sketches and drawings. 50 photos by Kitchener.
- C. Ethnographical, with notes on population and inhabitants and on legends and traditions. Trade and manufactures, to a certain extent.

A number of special surveys were made, for example, Athlit, Beisan, Samaria, Masada. Also, a certain number of geological notes were made.

In regard to the difficult question of place-names these two young officers collected and published 9,000 Arabic names, with their translations. They had immense difficulty in getting those names right. Apart from the spelling variants, Conder found that the ignorance of the peasants made it exceedingly difficult to get the name of a place correctly, and Tyrwhitt-Drake gives a humorous little account of what happened when a peasant was asked about the name of a place.

I ride up to a man ploughing in a wady and say : " What do you call this wady ? " " Which wady ? Where ? " " Why, the one we are in : here. " " What do you want to know for ? " " To write it on the map, " etc. " Oh, this is called El Wad " (the valley). " Nothing else ? " " No. " " Well, the men here must be illiterate donkeys. " (Turning to the man): " Why, when you go home and say that you have been ploughing in the ' Wady, ' perhaps they'll think that you've been on the other side of the hill yonder. " " Oh, no. I should say I have been in the Wady Serâr. " " Then you call this Wady Serâr ? " " Yes, that's what we call it. "

That was by no means the only thing that Kitchener and Conder were up against, for considerable active hostility was shown against them and they were attacked or fired on at least half-a-dozen times between 1872 and 1875. But they always succeeded in getting the offenders punished in spite of the unhelpful attitude of the Turkish authorities, about whom Conder wrote home : " Each official tries to make the affair as long as possible. " Finally, in July, 1875, they very nearly lost their lives in what Kitchener describes as " a murderous and provoked attack on the party by the Moslem inhabitants of Safad. "

They were pitching their tents just to the north of the town near the spring. It was a hot day and Lieut. Conder had just got underneath one of the tents which had been pitched and was having a little rest. He became aware that there was rather a row going on outside and went out to find an elderly sheikh going round in a very insolent manner and examining and laying fingers on everything. Conder was informed that the sheikh had said that he had seen " many dogs like them before. " Then, mysteriously, a revolver which was hanging on a tree

by the tent was missed and one of the servants went up and asked the old sheikh if he knew anything about it. Conder also went up a little closer and began talking to the sheikh, who promptly grabbed him by the throat. Conder replied by knocking the sheikh down. The sheikh got up again and went for Conder a second time and then began to shout for his young men, calling out many times, "Where are the young men?" (*Shebab*.) The *shebab* ran up and presently there were about 200 people all occupied in throwing stones at Lieutenants Conder and Kitchener and the members of their party, all of whom were badly wounded. A shot missed Kitchener by a hair's breadth, and he was chased for his life by a black man with a large sword. He was wounded in the thigh by a stone and very nearly there was no Lord Kitchener. Finally, a message was sent to the Governor of Safad, who came up with a troop of soldiers and Mr. Marcus Segal, the British Consular Agent, and the party was saved. They were all so much injured that they had to go into hospital.

They considered the matter to be so serious that they took it up through diplomatic channels, writing to Constantinople, and a trial was arranged to take place at Acre. It was an important affair, at which the British Consul-General from Beirut was present. Sixteen men were convicted and sentenced to various terms of imprisonment, and a collective fine of £112 10s. was imposed on Safad. This, however, did not satisfy the two young officers, who had very proper ideas about keeping up British prestige. First they managed to get the fine increased to £150, and, finally, they were successful in having it brought up to £270, which sum was duly handed over to the Palestine Exploration Fund to help research.

Their wounds, and the general state of their health, as well as a serious outbreak of cholera in the country, decided them to return to England. But the Survey was not complete, so Kitchener went back to Palestine in the spring of 1877. It was characteristic of him that he went, as soon as he could, to Safad, where he was officially received by the Governor, and obtained an apology from the ringleader of the attack. He finished the Survey a few months later, and, as I have already told you, the whole work was ready for publication by September 10, 1878, or fifty-eight years ago.

If one studies the map they made, and reads the three great volumes of the Survey of Western Palestine, one cannot fail to be impressed by the vastness of the field which these two young officers covered, and with the thoroughness with which they did their job. One can, without hesitation, say that the Survey is the most important single work that has been published by the Palestine Exploration Fund, and that it is a very splendid monument to the men who carried it out so successfully in the face of very great difficulties.

The Survey covered the 6,000 odd square miles between the Litany in the North, and Beersheba in the South, but did not touch that part of the desert, or semi-desert, between Beersheba and Akaba which is now included in Palestine.

The work done there by Palmer and Tyrwhitt-Drake had been more in the nature of an itinerary than a full survey, but the Palestine Exploration Fund again stepped in and made that good, though not for some years. In 1914 the present Treasurer of the Survey Committee—the new Survey about which I am going to tell you—Colonel Newcombe, then Captain Newcombe, was sent out to survey the southern desert. Two men who were digging in the East accompanied him. Captain Newcombe was rather doubtful about these men because they were archæologists, and I have heard that, before he saw them, he referred to them as greybeards from the British Museum. Those two young men were Leonard Woolley and T. E. Lawrence, both of them then about thirty years of age. Well, they covered fairly accurately the southern desert, although their time was very limited. The map was made, and their notes on the archæology of that desert are contained in Annual III of the Palestine Exploration Fund, which is called *The Wilderness of Zin* and has lately been republished. Thus by the outbreak of the war, the whole of what is to-day called Palestine had been covered by the Archæological Survey.

After the war the British School of Archæology was founded, not as a rival, but as a sister institution of the Palestine Exploration Fund. The School has collaborated with the Fund ever since its foundation and that collaboration continues most happily. Now, both bodies have come to the conclusion that a revision of the old Survey is urgently needed.

They have therefore formed a strong joint committee and will shortly issue an appeal.

There have been many changes in Palestine since the 'seventies, many due to time and weather, but more, I am afraid, due to the hand of man, though since the present Administration took over, the damage by man has been greatly reduced by the activities of the Department of Antiquities. Furthermore, archæological knowledge has increased. There have been very many extensive and thorough excavations, and the Palestine Exploration Fund has been able to publish a map of the sites which have been excavated.

The task before us in our revision of the Survey is much easier than the task which confronted Kitchener and Conder. Communications are much better. In addition to many main roads there are many new village roads in Palestine and thus we are enabled to get much more easily to sites which were previously almost inaccessible. Then we have no map to make. There is a Government Survey Department which is in process of making an excellent map. It has already produced a number of sheets. The scale of that map is slightly smaller than the 1-inch to the mile map produced by Kitchener and Conder ; it is 1 cm. to 1 km. That is a little too small for our purpose, but fortunately the Director of Surveys is a far-seeing man and he has caused prints to be made of every sheet that he has so far produced—he is continuing that policy—twice that size ; that is to say, 1 to 50,000, instead of 1 to 100,000. That size is most convenient for archæological work. The sheets of that map so far produced are Jaffa, Jerusalem, and Haifa, and I think one or two more have been printed urgently since I left Jerusalem. We propose to start on the Jaffa sheet.

Apart from having no map to make we need only give a summary of the geographical and topographical detail. As to ethnography and the population, here again the work is completely covered by the admirable census which was carried out by Mr. Mills for the Government in 1931, and which I understand will be periodically revised. We do not need to deal with trade and manufactures because there is a department which deals with them and issues statistics at intervals. What is very important, we shall have little trouble with names

because the Survey Department and the Department of Antiquities have combined and have published lists of names of every site and village in the country with the standardized spelling adopted by the Government and in three official languages. Still, there is room for a good deal of work. We must have a memoir for each sheet of the 1 to 100,000 map. The material for this is partly provided in the original Survey memoirs and in reports which have been collected by the Inspectorate of the Department of Antiquities. That Inspectorate, with which I was at one time connected, is responsible for examining all the antiquity sites of Palestine, of which there are over 3,000. Most of those sites, except very unimportant ones, have been visited and reports exist upon them. Those reports Mr. Richmond, the Director of Antiquities, tells me will be readily put at the disposal of the Survey, and that, I think, will save a good deal of trouble. Not only has Mr. Richmond promised his collaboration in that connection, but every member of the Department of Antiquities—they are all interested in the School—is keen on helping in every way. We can also count upon help from other archæological bodies in Palestine. We have most excellent relations with the Dominicans, that is to say, with the French School, and with the American School. I am sure they will help by lending us students, by getting little bits of special work done, by undertaking bibliography, and by the use of their valuable libraries.

There have been many excavations undertaken since the old Survey was carried out. We must note these and make references. There must be a bibliography for every important site in the country, and there are many sources which can be dug up, both new and old. That means a good deal of work. I believe that it will be possible for arrangements to be made that these references should be searched for not only in Palestine, but in London, at the headquarters of the School here and with the aid of the Palestine Exploration Fund.

The memoirs will be by map-sheets, but the sheets of the 1 to 100,000 survey map will not cover the southern desert. There is, however, a smaller scale map of that and that, I think, should be the subject of a certain amount of revision and of a separate memoir. There is in the south the expedition which Professor Myres mentioned, namely, Mr. Colt's Archæological

Expedition. He has a number of young men and women working there on the Byzantine remains, and most of the remains in that part of the world are Byzantine. I hope Mr. Colt and his personnel will help us to examine the other sites in that southern country, apart from the sites in which they are actually excavating. They already have their headquarters down there. They have a house at Sbeita which would make a very convenient centre from which to operate.

Apart from memoirs by map-sheet there should be monographs on the main periods and on special subjects, with special maps of the whole country. For example, it is worth while trying to get out a monograph on communications. Roads have a habit of staying in the same place for a long time, and a small monograph on the communications and what they imply as between Palestine and other countries would be exceedingly interesting, not only to archæologists, but to anybody interested in the country as a whole. As to different periods, we have the Stone Age. The School has already sponsored Dorothy Garrod's excavations in the caves. She is very keen to go on with her work and would be ready, if we managed to get the funds, to make herself entirely responsible for a monograph on the palæolithic period in Palestine. There is the Crusader period at the other end of the scale, and when Lawrence was a young man he published a thesis on the Crusader castles of Syria. He worked down just into Palestine, but did not complete the survey in that country. I think it would be proper that the new Survey should produce a separate monograph, with a separate map, of the Crusader remains in Palestine, care being taken to show the intervisibility of the various castles. The Roman antiquities have been dealt with by Mr. Avi-Yonah of the Department of Antiquities.

We want the aid of air photography, and we should like to publish many more than the fifty ground photographs that Lord Kitchener was able to take. We can count for that on the photographic section of the Department of Antiquities who, I am given to understand, will put their photographs at our disposal. We want, of course, to enlist the aid of the Air Force to take air photographs, both vertical and oblique. I have found such photographs to be of great value in Palestine.

Although our task is easier, it is still difficult. But we can

count on a number of voluntary helpers. We hope it may be possible for Fellowships to be granted in certain cases to enable young people who could be useful to us and who would profit by the service they gave us to come out to Palestine. It will be possible to save expense by doing a great deal of the work we have to do as piece-work. It is always a business when you have an archæological show going on some 3,000 miles away to get people to the spot. One has to pay fares which they often cannot afford themselves. We might occasionally, I think, make arrangements for students of other schools or of our own school already out in Palestine to stay out for an extra month or a few weeks to do a special job, and pay them a small fee for that. We have to find quarters for ourselves, and I understand we are to have the help of the Government. But the question of quarters in Jerusalem is somewhat difficult. Most of the Government lettings are occupied. So far, the only buildings which have been suggested to me as possible for us to work in are not entirely suitable. One is over the Damascus Gate and very small. The other has only an earth floor, and arrow-slits for lighting. We may manage to obtain something a little better.

Our chief difficulty, of course, as a Survey, is funds. I understand that there will shortly be an appeal issued to the public, but I hope that any of you here will urge your friends to contribute to this joint undertaking. We shall be starting with the Jaffa sheet as soon as I get back. We have decided that it is worth while going on with one sheet to make a beginning, and when we have something to show we may get people sufficiently interested to enable us to go on. There are about 420 sites on that sheet which are already listed and set out in order. When I return to Palestine I hope to start getting them put on the map by the help of the Director of Surveys and to start on a memoir, which I trust will be published before too long.

The Survey is the joint undertaking of the School and of the Palestine Exploration Fund. The School will make it its main field project for some years to come. The School has, however, other activities, and since this is its Annual Meeting it is right that I should not omit a reference to them.

In the past there have been Mr. Crowfoot's considerable

activities. He has dug at a number of places. Jerash and Samaria are the two best known to you. Unfortunately, he is for the moment not going back to dig. I hope later he may change his mind and go out again to do some more excavation, also under the auspices of the British School of Archæology. He would be very welcome out there again, I know, because all the other people in the Schools in Jerusalem regret that he has left and hope with me that he will return.

We have to a certain extent, sponsored the Colt Archæological Expedition. We have not provided funds for it, though we have done whatever we could to help it in other ways. Happily, that expedition is financed independently. It is associated with the School as an archæological institution recognized by the Palestine Government.

The School has also sponsored Miss Garrod's valuable prehistoric research, to which I have already referred.

We have a certain amount of property to look after, and a very excellent library, whose utility to students has recently been enhanced by Sir Robert Mond's gift of £200, which has enabled us to carry out a very important piece of work ; that is, to make the sets of our periodicals almost complete. Thanks to Sir Robert Mond, we have filled up many gaps in them and students who now go to consult the periodicals can be nearly certain of finding the volumes they want.

Then we have received a number of students, archæologists and visitors of all sorts who come to call on us and ask for help and information, just as they asked my predecessor, Mr. Crowfoot. They must not be sent empty away.

The School, however, has the greatest difficulty in maintaining these activities as it ought to do as the School of the Mandatory Power in Palestine, for since the withdrawal some years ago of the annual Government grant it has been desperately poor, and indeed, has been kept in existence largely by the generosity of its Honorary Treasurer.

The French School of Archæology in Jerusalem has a large, permanent building and a most adequate staff. The American School has endowed quarters, including lecture-room and living quarters for staff and students. The Archæological Faculty of the Hebrew University has been able to augment its personnel and to increase its accommodation.

The British School has no quarters of its own. Its library is given space by the Americans, and the rest of its equipment, such as it is, is stored in a couple of rooms at the French School. If we want to give a lecture, we must borrow a room, and even a lantern ; and the wretched Director has no office at all.

I am afraid that archæologists are sometimes regarded as strange and unworthy creatures. Some years ago we were described in the Palestine Official Gazette as the " inmates of archæological institutions " ! Nevertheless, archæology is an important thing in Palestine. A very large section in the Mandate is devoted to it ; the building of the new Jerusalem Museum, Mr. Rockefeller's fine gift, and the different excavations carried out, have caused very many thousands of pounds to be spent in Palestine, and antiquities excite a justifiable interest among many people, both residents and visitors, who are not necessarily archæologists. I have found that soldiers are particularly keen to hear about archæology, and there are many troops in Palestine just now.

I think it would be an excellent thing if the British School could not only carry on the commitments which it has in hand and undertake the activities which it has in immediate view, but even increase them. I should like to see the British School of Archæology as a centre which could supply information with regard to the antiquities of the country much more fully and freely than it now can and also a place in which we can decently give lectures to those interested, who are many.

It is naturally difficult to run a School which has no headquarters of its own on the spot. When I am asked, " Where is the British School of Archæology ? " I have to reply, " We have a library at the American School. Will you come round there and I will show you the books," and that is almost all I can do for them. I hope you will agree with me that it is worth while doing something to encourage people to give a little more to the British School, and I trust that the hope expressed by the Colonial Secretary will come to something really material. (*Applause.*)

DESCRIPTION OF FRONTISPIECE AND PLATES I-II

FRONTISPIECE

Elisha's Fountain at Jericho

“ A STREAM of cool water rises from beneath the great mound known as Tell es Sultan, the site of Jericho at the time of Joshua. It comes out beneath a wall, in which a small circular niche has been found, probably the remains of a little Roman temple to the genius of the stream. It was the water of this spring that Elisha caused to become sweet, having been previously salt and undrinkable (2 Kings ii, 22). The view is taken about ten yards below the spring head and looking east. It gives a good idea of the luxuriance of vegetation in parts of the Jordan valley, which are well watered, and of the capabilities of the district to produce every kind of semi-tropical fruit and vegetable if placed under cultivation. In the time of Herod the Great this part of the valley was irrigated and cultivated ; palm groves existed, which have disappeared since the seventh century, and the climate was so charming that it was pronounced by Josephus ‘ a region fit for the Gods.’ The Plains of Jericho were given as a royal present to Cleopatra.

The want of drainage and cultivation has caused the country to become barren, except in the immediate vicinity of the streams, and the climate almost deadly at certain seasons of the year.

The principal tree in the picture is a huge castor-oil plant, which is a conspicuous object in the scene. The figure is that of Lieut. Conder, R.E.”

PLATE I—The Valley of Michmash—Scene of the Attack of the Philistine Camp by Jonathan and his armour-bearer

“THIS view is taken from the southern brink of the valley of Michmash, now called Wady Suweinit, a name supposed to take its derivation from the Hebrew *Seneh*—meaning a thorn. The gorge is called Valley of Thorns by Josephus. The point from which it is taken is at the end of a plateau called ‘Gibeah in the Field’ in Scripture (Judges xx, 31). The spectator looks eastward towards the desert above Jericho. The northern cliff is probably the exact site of the camp of the Philistines, and the point at which Jonathan and his armour-bearer crossed over and climbed up. The northern cliff is in bright light, and the southern in the shade. This is probably the real origin of the name Bozez, or ‘shining,’ which is given in the Old Testament (1 Samuel xiv, 4) to this side of the valley. The cliff retains the name of El Hesn, ‘the Fortress,’ a title which may very probably have originated in its being the Philistine fortress in the time of Saul.

At a later period this terrible gorge proved a considerable obstacle to Sennacherib in his advance on Jerusalem (Isaiah x, 28). It is the most precipitous valley in the whole district of Benjamin, and can only be crossed by a winding path leading from Jeba (the ancient Geba) to Mukhmas (the ancient Michmash). Both these towns are out of the picture towards the left hand.”

PLATE II—Unpublished photograph taken in Mt. Sinai during the Geological Expedition and Survey of the Wady Arabah, 1883-4. The group comprises Major Kitchener, Prof. E. Hull, Dr. E. Gordon Hull, George Armstrong, H. C. Hart. The photograph was taken by Reginald Lawrence.



THE VALLEY OF MICHMASH
(see p. 32)



GEOLOGICAL EXPEDITION TO THE WADY ARABAH, 1883-4
(see p. 32)

THE MODERN GEOGRAPHY OF PALESTINE

*Extracts from a Paper Read at the Meeting of the British Association
at Blackpool, 1936*

BY LT.-COL. F. J. SALMON, M.C.

Commissioner of Lands and Surveys

FEW parts of the world can boast a larger or more varied bibliography, both ancient and modern, than Palestine, and I propose to deal as little as possible with those aspects of Regional Geography which can be studied from existing works, and to concentrate on the activities of my own department.

Land Tenure

In the Ottoman days, a title to a piece of land in Palestine was a very vague document. There was no survey, recording shape, area or position ; the description was usually, to say the least of it, ambiguous, and the extent which was the gauge for taxation, was almost invariably falsified to save the pocket of the owner. Big blocks were, and in areas where there has been no land settlement, still are, shared by large numbers of owners who have no defined boundaries and who often alter the position of their plots from year to year. People were not in a position to take great interest in their holdings or to develop them. Partition of land by owners of shares was usually effected in long narrow strips, producing uneconomical shapes, sometimes a kilometre or even as much as four kilometres long and only three or four metres wide, which had no advantage except that the cultivator knew that he was getting a good average sample of the soil of the countryside and would not have the trouble of turning his plough at the end of a furrow more than a very few times ! For the Arab who wanted to develop his property and the Jew who wanted to purchase land to settle on, the position was most unsatisfactory. To purchase land from a title owner, or worse still, from an occupier who had no title, was a very uncertain business, and

often still is. The difficulty, however, is now being solved, though very slowly, by Land Settlement.

Large scale surveys are being made by the Survey Department: and plans are prepared showing the boundaries of parcels of land according to claims. The claims are recorded and examined by Palestinian Assistant Settlement Officers, while cases of dispute are heard by British Land Settlement Officers. The final boundaries are demarcated on the ground by iron marks, recorded on accurate block plans, and title is entered in the Land Registers.

Even in areas that are not under Settlement, a land-owner can apply for an authoritative registration of title on a modern survey, but if there is a dispute, this has to be settled by the Land Court, a much slower, more expensive and laborious proceeding than an investigation and judgment by a Settlement Officer. Many Arab land-owners and a large number of Jewish Settlements have established title in that way and development is thus affecting the face of the country in areas still unreached by Land Settlement, though of course in a patchy and sporadic way.

Roads and Communications

Before the war, there were very few places in Palestine that could be reached on wheels, and only a very indifferent carriage road ran up from Jaffa to Jerusalem. The motor map of to-day, which marks only those roads that are practicable by cars, shows the immense changes that have taken place in this direction, though in some cases we are merely re-opening communications which existed in Roman times. The map of Roman Palestine, superimposed on a grey print of our Administration Map, shows the relation between Roman and modern communications.

Conditions of trade having altered, some of the principal ancient routes, like the one from Nablus to Beisan, are now almost untraversed.

Railway communication with Egypt, which was established during the Great War, has, of course, been maintained. There has been no call for any but a few minor alterations in the railway system. Lydda, the principal junction, was chosen for strategical rather than commercial reasons, and there has

been discussion as to whether the advantages of a change would justify the cost.

Aerodromes

A development that may in course of time appreciably affect the face of the land, and the skies above it, is the aerodrome. Modern air ports are being constructed at Lydda and at Haifa, while landing grounds are distributed over the country. Imperial Airways once landed their flying boats on the Lake of Galilee, and there is talk of their doing so again, but there is a difficulty to overcome. However much Palestine may have changed since Bible days, the meteorological conditions are much the same. The Lake of Galilee is liable to sudden storms with wind rising to hurricane strength and six foot seas. Such conditions are not good for anchored sea-planes. On the Dead Sea, where the configuration of the surrounding country does not develop such fierce local air currents, the wind does not rise above forty miles an hour, although the fifty-mile stretch of water will still pile up a six-foot sea.

The Conveyance of Oil and of Electric Power

The produce of Babylon no longer brings fortune to the transport contractors of the desert or to the Beduin raiders who took levy along the routes. The principal import to Palestine from the landward side comes neither by camel caravan, nor by lorry, nor by train, but surges through the underground pipes of the Iraq Petroleum Company.

From the Rutenburg electric works on the Jordan, or from subsidiary power stations, long rows of pylons carrying the cables trace their way in many directions across the country. Although of some topographical importance, these are not shown on our small scale maps, as it is not possible to mark them all, and the inclusion of some and omission of others might constitute a danger to low-flying aeroplanes.

Water Supply

For untold centuries, the conditions of life in the country have been regulated by the same distribution of water supply. Springs, like those at Beisan, Kabria, Jericho, and Ras al 'Ain,

have created centres of population, and to some slight extent the Romans artificially extended the influence of such supplies by aqueducts, but modern wells and pumping machinery are, in the plains, altering the whole appearance of the country. At present, we have little knowledge as to how much of the rainfall is recoverable from wells, and what proportion of the available supply is sufficiently free from salt to allow of its use for agriculture or domestic purposes. There are signs, in places, that the water table is being lowered, and it may be necessary, in years to come, to exert some control. The Department of Surveys has, for the past three years, been carrying out a water resources survey. Depth, level, discharge, and salinity of wells have been measured, and no doubt these results will be compared with re-measurements made after a lapse of a suitable time.

The Survey is establishing an accurate system of levels throughout the country so that not only may the water table be properly studied, but geologists in future generations may be able to discover whether there are earth movements at work affecting the relative heights of the Judean Hills and the Jordan rift. Our double sets of height observations are comparing to within one millimetre in each kilometre of distance measured. Our main concern is to find sufficiently permanent sites for our fundamental bench marks.

Land Drainage

If you study old maps or the records of travellers in Palestine, you will see or read of large areas of swamp and marsh. Orange cultivators round Jaffa and Jewish settlers elsewhere had carried out a certain amount of draining of these before the war, but the process is now proceeding very rapidly. The Birket Ramadan, so well known to shooters of duck and other water birds, is nearly gone. A powerful Jewish organization is dealing with the Huleh marshes in the North, probably the most unhealthy area in the country ; on our maps, the blue marsh sign between Haifa and Acre will have to be erased before long, drainage is being carried out round Beisan and soon the malarial mosquito will be hard put to it to find a spot where he can bring up his family. He will have to migrate to the more arid districts where his brothers

have for so long ravaged the Beduin round the desert springs and wells at such spots as 'Ain Fashkha and 'Ain Jidi on the Dead Sea, or 'Ain Hosb and the wells of the Wadi 'Araba.

Forests

Afforestation is being carried out by Government and by private enterprise, and many pleasant copses of pine, eucalyptus, acacia and other trees are scattered about the country. More practical than beautiful will be the areas of indigenous scrub planted for the protection of the soil on the hill slopes, and so a Palestine forest must not always be expected to look like Burnham Beeches. No doubt, in course of years, the appearance of quite large areas, especially in the hills, will be changed by trees, but uncertainty of title is affecting forest work, which cannot be satisfactorily carried out until ownership and boundaries have been properly defined. Opinions are divided as to whether large extents of forest existed in Palestine in Biblical times, but there is no particular difficulty in growing trees on the Judean Hills. There are some fine extents of woodland in northern Trans-Jordan, and that the Lebanon had considerable cedar forests is certain. When Lachish was taken by Nebuchadnezzar, he made huge bonfires under the limestone walls in order to calcine them, but the ashes recently found by excavators show that he collected his timber from the local olive groves ; a fact that has dated the operation to the month of August as the charred stones of the fruit are there too. This, however, does not necessarily mean that there were no natural forests beyond the immediate vicinity of the town.

The Towns

In the towns, the development, in recent years, has been even more marked than in rural areas. You have all heard of the remarkable way in which the Jewish town of Tel-Aviv has developed. One can return to Palestine and lose oneself among new roads and streets, where only sand dunes and a few stray buildings had existed when one had gone on leave three months before. Tel-Aviv, built on the sand dunes, and until recently a suburb of the oriental town of Jaffa, is now a modern European city with a population of some 165,000,

greatly exceeding in size the original Arab town where the port is situated. Jaffa itself has also considerably increased since the war, and there are many modern buildings.

A comparison of the two maps of Jerusalem, published in 1926 and 1936, shows a very marked change, and now that there is an adequate water supply, expansion in this city will no doubt go faster than ever.

Haifa, with its new harbour, is developing apace. Garden cities and attractive new residential areas are springing up on the beautiful ridges of Mount Carmel, nearly 1,000 feet above the sea.

Proper municipal water supplies and drainage schemes have so far been lacking in the three principal towns, but Jerusalem, which until recently had an insufficient supply from 'Ain Fara and Solomon's Pools, is now connected to the springs at Ras al 'Ain, some forty miles away and 2,500 feet below it, by the new pipe-line. Similar schemes are in preparation for Haifa, Jaffa and Tel-Aviv, where modern drainage is also being installed.

Extensions are everywhere being controlled by town planning schemes, but want of design in the earlier days has left a legacy of ill-conceived lay-outs that cannot be corrected.

There is one place, however, where changes have been very few, and that is the Old City of Jerusalem within the Walls. A survey of this area was made in 1864-5 by Captain (afterwards Major-General Sir Charles) Wilson, R.E., under the auspices of the Ordnance Survey. This plan merely showed the outline of the streets and a number of the more important buildings.

There is not the same call for surveys within the Old City as elsewhere as there is no urban taxation or modern land registration. It became clear to me, however, that for the archaeologist, the tourist, the general public and to some extent the Administration, a proper picture of the place was very desirable and an up-to-date map has been produced. It makes no pretence at the accuracy necessary for boundary disputes as the survey was of a topographical nature. The outline of the 1865 survey was found, when checked, to be remarkably accurate, and it was used as a framework, thus avoiding the expense of a complete re-survey. The intricate

irregular super-imposition of buildings upon each other makes it impossible to show all the detail of the Old City clearly on a plan, but some of the more important covered ways and underground works have been indicated in broken red.

The Cadastral and Revenue Surveys

Without an accurate survey, well marked on the ground, registration of title to land is of next to no value, and so by far the greater part of the activities of the Survey Department have perforce to be confined to large scale surveys for Land Settlement and Land Registration and also for rural and urban property taxation.

Our surveys are based on an excellent modern triangulation carried out by my predecessor, Major Ley. It started from an astronomical fixation and a base at Imara in the South and joins on to the French triangulation in Syria in the North.

It will be many years before a complete large scale cadastral survey on the 1:2,500 scale showing all property boundaries will be completed. We have, however, covered all except the more desert areas with a 1:10,000 fiscal survey showing the country in fairly large blocks according to taxation categories. This survey, which is published in the form of village plans, was carried out by plane table, and although not contoured it shows all physical detail, such as paths, streams, &c., and forms a very useful record from which different classes of maps can be produced and from which field sheets can be prepared for contouring or revision on the ground.

The Topographical Survey

In 1929, excepting Colonel Newcombe's small scale maps of Sinai and the South, surveyed in 1914, and a few military maps produced by the armies during the war, nothing topographical had been published since the Conder and Kitchener one-inch survey of the 1870's.

My predecessor, by reducing the 1:10,000 fiscal plans, and supplying contours in the field, produced a series of excellent 1:20,000 sheets, covering some of the more productive lands in the plains, but it became clear to me that it would take very

many years to complete the country on this scale, which moreover is too large for the undeveloped areas.

A suitable scale for the topographical survey is 1:50,000, but considerations of economy and the necessity of completing the series within a reasonable time, forced us to publish on the rather small scale of 1:100,000.

The compilation, the survey and the fair drawing are being carried out on the 1:50,000 scale, and photo-reduced for printing, so that we have the material for reproduction on the 1:50,000 scale at any time and one such sheet, for the area round Jerusalem, is actually in course of production at the present time.

The greater part of the detail in the 1:100,000 series is compiled from reductions of the 1:10,000 fiscal survey. Plain table field sheets are prepared and sent out to the contouring party who also correct and revise the detail where necessary. A considerable area in the centre of the country was contoured during the war by the Survey of Egypt staff. This has been checked, found good and accepted.

The work of our Palestinian staff has been checked not only from the ground but from air photos, and considering the fact that they have been locally trained and have had very little experience of this class of work, their contouring is very creditable. There is a barren wild and mountainous area between the Jerusalem-Beersheba road and the Dead Sea. The cost of moving a survey party about there and keeping it supplied with food and water is excessive. There is no fiscal survey in this mountainous desert and so we have enlisted the services of the R.A.F. who have photographed it. A triangulation party has been through it, fixing the height and position of a number of prominent points that are visible on each photograph. The work is now being plotted and the contours supplied by stereoscopic methods. We have no expensive stereo-plotting machinery but our approximate methods will give all the accuracy that is wanted in this inhospitable region—the wilderness of the scape goat!

The face of Palestine is not only covered by existing towns, villages and modern settlements, but also by the visible ruins of other sites that have existed at various periods throughout the ages—Canaanite forts, Israelite towns, Roman camps,

Jewish synagogues, Byzantine churches, Saracen and Crusader Castles, Arab villages, Turkish posts and Khans.

These may not only be important to archæologists, historians and geographers, but they are definite features with specific names and cannot be omitted from a topographical map. Although these "khirab" have been named with very small lettering, which is not always very easy to read, they, nevertheless, sometimes tend to crowd up a map on the 1:100,000 scale.

One of the features of our new Palestine maps is the sign for rocky ground. It is unusual on topographical maps to show rocks other than cliffs and precipices, but when serving in Cyprus, I found the necessity of indicating rocky areas where going is very difficult, where wheeled transport is impossible and where little can be grown. There, I was limited in colours and the sign I selected was similar to the Ordnance Survey symbol for shingle. Printed in black it rather clogged up the map. In Palestine we have our own photo-reproduction and printing plant, and I have tried grey and mauve with more success, but the fact is that you cannot indicate these rocky areas without sacrificing to some extent the general appearance and clearness of the map.

It must, however, not be supposed that nothing at all can be done with such country. Olives, vines and fig trees can often be grown and there is the remarkable system of patch cultivation practised by the fellahin who will plough and plant up with cereals little scattered bits of soil between the rocks often no more than a few feet square.

Some of the more permanent cultivation is a prominent feature of the countryside and so garden areas, olives, vines, orchards and citrus groves are shown. The green signs admittedly do not improve the general appearance or clearness of the map but they tell you a good deal about the country and sometimes help you to find your way. For those who do not like the green or the mauve rock sign we now print an edition with these omitted. Such an edition, perhaps with the "outline" in grey, will be used as the basis of the new Archæological Survey to be undertaken by the Palestine Exploration Fund and the British School of Archæology.

The classification of first class, second class and other

roads is purposely somewhat vague as conditions are continually changing and anything more definite would cause the map to become rapidly out of date.

On our 1:100,000 series, you will never find it necessary to stick two maps together in order to study the country within a few kilometres of your standpoint, as each sheet overlaps the adjoining one by five kilometres. It has been possible to do this without increasing the number of our series of fourteen sheets, and I think it is a great advantage.

Conclusion

It is not always sufficiently realized that a good survey, based on an adequately designed, accurately observed and well adjusted framework is a national monument of the first importance. Security of title to land, on which rural development depends, can only be ensured by an accurate cadastral survey, effective marking of boundaries on the ground, and a well designed, up-to-date Land Register.

The illustration and the study of a large number of human activities require good maps and a knowledge of how to use them.

In Palestine we have a good framework, and if the mapping is not being proceeded with as rapidly as the importance of the country warrants, and not always on the most desirable scale, it must be remembered that there are other very urgent calls on the Department of Surveys.

The requirements of Land Settlement, Registration of Land Transfer and mutation, as well as Urban and Rural property tax, have to be met.

In some two years, when the fourteen sheets of the 1:100,000 series reaching down to the Southern desert, are complete, it is likely that parts of the country will have undergone such development that some of the earlier sheets will have to be revised if they are to bear any resemblance to the state of affairs on the ground. Of the motor map there have already been five editions within two years of its first publication, and other maps for the maintenance of internal security have also to be regularly revised and reprinted.

I hope next year to produce a map of Crusader Palestine, and it is likely that geological, hydrological, agricultural and other special maps will be required.

THE CHRONOLOGY OF PALESTINIAN EPIGRAPHY

BY THEODOR GASTER

II.

The Chronology of the Earlier Scripts

THE accompanying diagram (Fig. 1) indicates in pictographic form what we take to be the true history and chronology of the earlier Palestinian scripts, previously described. The following paragraphs will serve to explain its salient points.

1. **The scripts go back to Aegean Linear Writing.** This is proved by demonstration in our comparative table (Fig. 2). It has been admitted, in so far as the "Phoenician" type is concerned, by such diverse authorities as Evans, Petrie, Dussaud, Waddell, Puchstein, Praetorius and Sundwall. That it is also true of the "Sinaitic" type and of the South-Semitic is proved by the table.

2. **The scripts were not borrowed directly by each group, but were developed from an intermediate Palestinian Linear.** This is proved by the fact that the same Semitic names for the letters obtain in every group. That these names are of hoary antiquity and were originally given by the Semitic mariners who brought the linear script to Palestine is proved by the fact that those letters (e.g., heth, teth) which, as we shall see, were secondary and invented natively on Palestinian soil have, in fact, no genuine Semitic names. This shows that the Semitic nomenclature dates right back to the period before those secondary letters were invented.

3. **The various scripts are independent derivations from a common source, rather than successive links in a single epigraphic chain.** This is proved by the fact that there is divergence, and not agreement, in the ways whereby each script adapts the original Linear writing to the needs of Semitic speech.

Thus the original Linear did not distinguish between h and h, representing both sounds (as did also its Asianic descendants) by one character. The various Semitic scripts supplied the deficiency in different ways. Sinaitic used the original character for h, and supplied h from the alphabet of the neighbouring Egyptians. Phœnician, however, discarded

Key	LINEAR		"SINAITIC"	PHOEN. I.	CUNEIFORM
κ	A	Δ	⌘	𐤀	𐤀 ē
γ	⌘	Π	□	𐤁	𐤁
λ	1	)	1	1	𐤂
τ	Δ	Δ	12	Δ	
π	⌘	⌘	-	𐤃	𐤃
ς	I	I	I	I	𐤄
π	ψ (= h & ḥ)	(π) ψ	-	-	𐤅 ḥ
,	ψ		ΥΥΥ	𐤆	𐤆
κ	𐤇	K	𐤇	𐤇	𐤇
ε	Λ	Γ	9	6	
μ	M	M	𐤈	𐤈	𐤈
ν	Λ	N	𐤉	𐤉	𐤉
υ	0	□	(.)	0	Δ
ρ	φ	φ	—	𐤊 𐤊	𐤊
γ	4	7	𐤋	4 9	
ω	ω	3	ω 3	ω	𐤌
π	τ	-	+ x	+ x	

FIG. 2. "AEGEAN" ORIGIN OF SEMITIC ALPHABET

the original character altogether, using the "short e" sign for h, and representing h by a secondary formation therefrom. Alphabetical cuneiform exhibits a compromise between these

two systems. It uses the original Linear sign for h, the Egyptian sign for h, the Linear "short ě" for h, and a modification therefrom for vocalic 'ě.

Again, there is the case of the so called "covered" letters *𐤀 𐤁 𐤂 and 𐤃* which are so characteristic a feature of the Semitic languages. Sinaitic and Phœnician did not represent them at all, whereas the script underlying Alphabetical cuneiform attempted, like South Semitic, to mark them by secondary signs.

Thus, it is apparent that the various scripts developed independently out of their common original. This precludes our classing them altogether into a homogeneous series, and hence we cannot establish the chronology of the earlier inscriptions by tracing stages in the evolution of a single alphabet. A "Phœnician" inscription, for instance, is not *ipso facto* later than a "Sinaitic," it being no longer possible to treat the former type of script as a direct outgrowth of the latter. Rather must we see in each of them an independent and parallel development from a common source.

4. Cross-currents in the development of the "Phœnician" script. These are represented on the diagram by the two slanting lines which intersect the Phœnician column in the earliest period. The insertion of them is tentative and somewhat theoretical, but it seemed necessary to allow for the possible influence of native Asianic and Egyptian scripts at a period when Palestine was often overrun by military campaigns from Asia Minor and Egypt. Notice especially that the diagram represents these influences as *cutting across* the "Phœnician" type, but not as surviving in it.

The second pair of cross-lines, placed in the period 1400-±1250 B.C., represents the state of affairs reflected in Dunand's inscription from Byblos (Q.S. 1935, 138), as seen from the standpoint of the "Phœnician" type. This inscription shows a hybrid script in which "Phœnician" characters are blended with elements derived from other scripts. From the standpoint of the "Phœnician" script, this means that "Phœnician" was then "crossed" by foreign influences.

5. "Phœnician" Crossing in Sinaitic and Alphabetical Cuneiform—"Phœnician" crossing in Sinaitic appears most clearly in the 'Ain Shemesh ostrakon (S. III., Q.S. 1935,

p. 134), where ḥeth, 'aleph, nun (naḥaš) and mem (?) have "Phœnician" forms.

	OSTRACON	GEZER	AḤIRAM
ח	𐤁	𐤁	𐤁
א	𐤀	𐤀 (ll. 5, 7)	𐤀
נ	𐤅	𐤅	𐤅

FIG. 3.

It is especially to be noticed that these forms reflect a script nearer to that of the Gezer Calendar and the Moabite Stone than to the Aḥiram inscription of the thirteenth century B.C.¹ This is shown clearly in Fig. 3, and indicates that the "Phœnician" crossing first became appreciable in the later, rather than the earlier stages of Ph. I.

Although this crossing only becomes significant in S. III. (i.e., on the 'Ain Shemesh ostrakon), it is plain from the "Phœnician" 'aleph² of the Tell Duweir Ewer that it had already begun, to a lesser extent, in the earlier period of S. II., or just before it. Moreover, the parallel presence of such crossing in Alphabetical Cuneiform (*v. infra*) at a date earlier than S. III., suggests that the encroachment of the "Phœnician" upon the sister-types commenced already in the period $\pm 1400 - \pm 1250$ B.C. This explains why we have placed the first indication of crossing on our diagram in this period, though indicating by the profusion of arrows that the main current of "Phœnician" influence upon "Sinaitic" dates somewhat later, i.e., in S. III.³

"Phœnician" crossing in Alphabetical Cuneiform is less

¹ For this dating v. QS. 1935, p. 137; Dussaud, *Syria* 1931, p. 176. n. I; Valentin Müller, *Archiv für Orientforschung* 1931, p. 50.

² Even if this letter be a *daleth*, it would be of "Phœnician" type.

³ If letter 2 in Obv. 2 is a *peh*, and letter 3 of Obv. 4 is a *resh*, these would also be "Phœnician."

pronounced, but still apparent. It is to be noted above all in the two forms of *samek*, viz., $\nabla_{\dot{s}}$ ¹ and $\nabla_{\dot{s}}^2$. The former of these is simply the "Sinaitic" ∇ set vertically, whilst the latter is a clear reproduction of "Phœnician" ∇ in cuneiform.

Waw, ṭeth and mem similarly bear evidence of "Phœnician" crossing.

In the case of the two *sameks*, it seems to us that $\dot{s}^2$ was due to conscious borrowing rather than to unconscious encroachment, for it appears to have been used originally to represent a foreign sibilant in loan-words not yet completely naturalized.

In the 1929 texts from Ras Shamra there are only two occurrences of it, viz., (a) xii. 11 $\dot{h}\dot{s}^2wn$, and (b) xxxiii. 7 $\dot{k}\dot{s}^2u$. In the *Hippiatric Treatise*, the word for "horse" is written $\dot{s}^2\dot{s}^2w$.

Each of these is still regarded as a loan-word. $\dot{H}\dot{s}^2wn$ is clearly non-Semitic, possibly Hittite (ending—*wanes*), and denotes a plant, cereal or condiment. $\dot{K}\dot{s}^2u$ "throne" (Assyr. *kussu*, Heb. כִּסֵּא etc.) is still regarded as a loan-word from Sumerian *gu. za*, whilst $\dot{s}^2\dot{s}^2w$ "horse" (Heb. סוּם, etc.) is considered (rightly) as an I.E. loan-word, representing a "satem" pronunciation of the word occurring in Sanskrit as *āśvas*, in Zend as *aṣpō*, in Greek as ἵππος, ἵκκος, in Latin as *equus*, *ecus*, and in Lithuanian as *asvā*. The name (which should probably be pronounced 'swās) was imported along with the animal. It is especially noteworthy that in the contemporary Amarna letter, Knudztou 263,25 the word occurs in the curious spelling *zu-zi* and is marked with the slanting wedges which indicate a foreign term.¹

¹ Etymologically, the word means "the swift one," deriving from $\sqrt{ak}$ "be swift." (Curtius, Gr. Etym., §624.) Similarly, Hebrew, שָׁרָף, Arabic سَرَفٌ &c., derives from Hittite *paras* (Sayce, JRAS, 1930, p. 312) which comes from a rt. *par(h)*- of much the same meaning. According to Skeat (Etym. Dict. s.v.) the English word "horse" also goes back to a root meaning "be swift." The I.E. derivation of סוּם (=סוּם*) is admitted by Hommel, Ungnad, Hrozný and Dussaud. The final -w in the Ras Shamra $\dot{s}^2\dot{s}^2w$ may perhaps represent the same element as appears as i in Syriac, ܣܘܫܐ. Amarna *zu-zi*, and as m (=w) in Egyptian *smśm* (t).

This use of a foreign letter to represent a foreign sound is paralleled by the way in which modern Semitists often use the Greek χ to represent the non-European sound of *heth*. Somewhat similarly, the Ras Shamra scribes—or rather their predecessors—invented a special sign  (secondary from  = *w*) to denote the Hurrian sound—*š*.

The importation of *s*², and likewise of  antedates our present tablets from Ras Shamra (±thirteenth century B.C. ?), because in those tablets the original significance of these signs is already forgotten, and they are regarded merely as alternatives to *s*¹ and *s*, though traditional in certain words.

Thus *hs*²*wn* of 1929 ; xii. 11 is alternatively spelt *hs*¹*wn* in that very text (l. 3), whilst “ throne ” appears as *ks*¹*u* in 1929 : xxiii. 2,¹ and in several other places. Similarly,  does duty for pure *samek* (or *sin* ?) in genuinely Semitic words, such as *bsr* “ flesh ” in I.AB.

These considerations enable us to reach the conclusions : (a) that “ Phœnician ” influence obtruded itself upon Alphabetical Cuneiform at a period antedating the thirteenth century—the date of the Ras Shamra tablets ; (b) that this influence came partly (i.e., in the case of *š*²) through conscious borrowing ; (c) that at the time of the said tablets the originally foreign “ Phœnician ” character *š*² had become completely “ naturalized.”

Accordingly, our diagram registers “ Phœnician ” crossing of Alphabetical Cuneiform as anterior to specifically Ugaritian script. The presence of “ Phœnician ” crossings in the sister-scripts affords what is perhaps our one reliable criterion for establishing an epigraphic chronology, for whilst we can certainly not group all the texts into a single series and thence determine sequences on grounds of alphabetical evolution, we can derive valuable and crucial information respecting relative

¹ The text is fragmentary. I restore it as follows :

[*k*]*s*¹*u* ‘*El*’ [*k**h*]*š* ‘*l*’*šrt* “(erect) a throne for Elath, a cathedra for Ashtareth.”

The erection of such thrones as a rite recurs in R.S. 1929 xxxiii where weread of [*m*]*šbt* ‘*elm*’ and *ks*²*u* *B*’*lt* and where the order is given *ššbn* ‘*elm*’ “enthroned the gods.” Cp. also Shalem-Shahar 19 : *mšbt* ‘*Elm*’. Such a *מִיתְבָּא* is mentioned in the Teima inscription CIS ii. 114. Cf. further the *gu.za* ^d*En-lil-la* in the menological text CT. xxxii. 41ff. and the expression *στρωνύειν θρόνους* in the Attis-cult.

dates of inscriptions by observing what stage of specifically "Phœnician" script is represented in the "Phœnician" crossings which they severally exhibit.

Thus, for example, it is possible to date the 'Ain Shemesh ostracon later than the Ahiram sarcophagus by virtue of the fact that the "Phœnician" crossings which obtain in the former belong to a later stage of writing than is represented by the latter (Fig. 3). With the growth of our material, much may be expected from the careful application of this new method.

Why the "Phœnician" system should have encroached in this manner upon the sister-alphabets is an historical problem which falls outside the scope of the present essay. Clearly, it was due to some internal movement within the country and not, as might be thought, to the fresh incursions of Aegean "sea-peoples" in the thirteenth to twelfth centuries B.C. So much is plain from the fact that one of the "encroaching" letters on the 'Ain Shemesh ostracon is, indeed, a form of *heth* which was a native "Phœnician" invention (actually a secondary formation from *heh*) and which did not, in fact, exist in the Aegean prototype! Whether the movement (or movements) in question are connected with those which created the Confederacy of Israel (Jeshurūn) out of a number of Palestinian tribes is an interesting point which may at least be mooted, if it cannot be further discussed.

The history of these early Palestinian scripts is, indeed, in many ways parallel to that of early Palestinian language and very probably reflects the same ethnic movements. Just as the several dialects "blurred and blended" until finally there was produced out of them that hybrid *Mischsprache* which we today (unscientifically) call "Hebrew," so the various scripts ultimately fused, and, subjected especially to the gradual process of "Phœnician" encroachment, produced in time a single standard alphabet.

5. The Bal'uah Script. This is the script on a stele found at Balu'ah, in Moab, in 1931 and first published by Horsfeld and Vincent in *Revue Biblique*, 1932, pp. 417-44. Our copy (Fig. 4) is taken from those scholars' tentative reading, as given, *loc. cit.* p. 425. A brief description and a photograph appeared in Q.S., April, 1934. Drioton has shown conclusively,

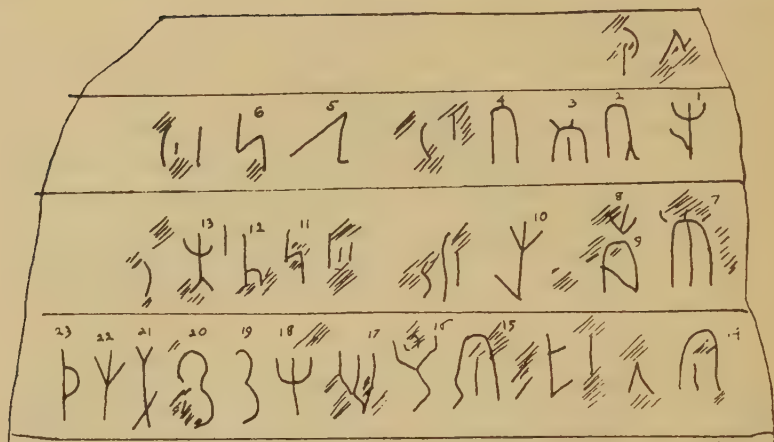


FIG. 4. THE BALU'AH INSCRIPTION.

from the evidence of the symbols and costumes borne by the deities who figure in the relief which accompanies the inscription, that the stele "cannot be earlier than the beginning of the twelfth century B.C." (*Revue Biblique*, 1933, pp. 353-65; cf. Crowfoot, Q.S., 1934, p. 76.) This accounts for the position accorded to "Balu'ah Script" in our diagram.

The inscription is faint, and the reading therefore tentative. It is clear, however, that the script does not accord with any yet known, despite resemblances to Thamudean and Safaitic which appears at first sight.

The Balu'ah Script is registered in our diagram as descended from the Linear, because out of eighteen traceable characters, thirteen have clear parallels in that script. Moreover, a close examination has convinced us that the Balu'ah Script is a "penalphabetic" writing with a Linear basis.

As shown fully in our table (Fig. 5) the signs may be divided into definite groups, the members of which are in each case so many modifications of a single basic linear shape. The modifications take the form of "tags" affixed to the main sign. This recurs in several examples of Aegean writing (e.g., on the silver goblet from Ras Shamra, discussed *supra*, p. 131, Fig. 3), on the Phaestos Disc, in Venetic and in early Runic. The tags are, further, akin to those in the "Hittite" hieroglyphs and even more strikingly to the modifications of basic consonant-signs, whereby accompanying vowels are indicated in Ethiopic

and in some other alphabets.¹ It is therefore probable that they have some kind of vocalic significance.

BALU'AH SCRIPT (with Comparisons).

1. 	18	} South-Arabian $\Psi = \Pi$; Thamudean Ψ ; Cuneiform Ψ ; In Sinitic Ψ is employed for h .
2. 	1	
3. 	13	} Sinitic $\Psi = \Pi$; but Cuneiform $\Psi = h$ Differentiation of No. 1
4. 	22	
5. 	10	} Thamudean and Sinitic have $\Psi = \zeta$ but also $\Psi = \Pi$ and the former appears to be a late secondary sign * No. 5 with tag.
6. 	4	
7. 	2	} Thamudean and Sinitic $\Pi = \zeta$; South-Arabian $\Pi = \zeta$ Ethiopic $\Pi = \zeta$; Byblian Π xxxii; Byblian Π xvii * No. 6 with tags
8. 	9	
9. 	14, 15	} Byblian A xi; Tell Dunur Bowl Π Differentiation of No. 8. ? Byblus Π No. 76.
10. 	3, 7	
11. 	6, 11	} Differentiation of No. 9. Thamudean, Libyanian, Sinitic, Phoenician $\eta = \zeta$
12. 	21	
13. 	12	} ? Byblus χ xxxi. [Thamud. + liby. $\chi = \chi$ are late debased forms.] Tell Dunur Ewer η ; Ethiopic $\eta = \zeta$. Thamudean η . 'Am- Shemesh Ostrakon η .
14. 	23	
15. 	19	} Safaitic $\pi = \tau$; cf. South-Arabian π ; Libyanian, Thamudean π . Thamudean, Libyanian, South-Semitic $\zeta = \omega$; Tell Dunur Ewer ϵ . [The other signs are incomplete].

FIG. 5

¹ This is, indeed, the basic principle of the vowels in all the Semitic alphabets. In Telugu, a vertical line under a letter indicates an aspiration of the consonant-sound, just as a vertical stroke over certain Hebrew consonants in late MSS. indicates the "raphe" pronunciation.

This is as far as we can go at present. Indeed, many may think that it is already too far in view (a) of the uncertainty of the characters, and (b) of the fact that with all the clues we have suggested, it is still impossible to decipher the text. We therefore stress the provisional character of the above remarks and point out that it is the *position* of the Balu'ah script in our diagram, rather than to our own observations upon it, to which we attach importance.

South-Semitic Scripts.—The history of the North and South Arabian scripts falls outside the scope of the present essay which is properly confined to *Palestinian* writing. Nevertheless, since they illustrate a point which has immediate bearing upon our subject, a brief discussion may be included here.

Upon examination it will be seen that the South Semitic alphabets, whilst almost certainly deriving from the Sinaitic of Serabit al Khadim, do not exhibit those "Phœnician" crossings which beset that script on Palestinian soil. Thus, whereas 'aleph, ḥeth and mēm assume "Phœnician" forms in the 'Ain Shemesh ostrakon (S. III), they retain their "Sinaitic" identity in the South Semitic scripts, however much they may reveal purely internal development. It is therefore apparent that the course of development was as shown in our diagram; the Sinaitic script was introduced into S. Palestine (*circ.* 1700 B.C.) and there subjected to gradual "Phœnician" encroachment, whilst still preserving its individuality without such "contamination" in Arabia and Transjordan, where it subsequently developed into the South-Semitic scripts.

The importance of this conclusion is that it divides the early Semitic alphabets into two great branches, both ultimately deriving from the same Linear source, viz. (a) the Palestinian Branch, crossed and finally dominated by the "Phœnician" type, and (b) the non-Palestinian Branch¹ which remained free from such crossing and preserved an independent course of development.

¹ The "covered" letters $\aleph = \text{𐤀}$, $\text{𐤁} = \text{𐤂}$, $\text{𐤃} = \text{𐤄}$ &c., are, of course, secondary formations. 𐤅 for *nūn* is not due, as might be thought to "Phœnician" encroachment, but is the natural development of the original "nahaš" sign in a lapidary style.

The bearing of this conclusion upon the future study of Palestinian Epigraphy is that it will cause us to look out for the possibility of "non-Palestinian Branch" inscriptions upon Palestinian soil (due to movements of bedouins), and it will enable us to explain them without overthrowing the results so far achieved.

That the "non-Palestinian Branch" was not confined at all times to a restricted area, but was indeed carried about by travellers is shown clearly by the discovery at Ur of a graffito

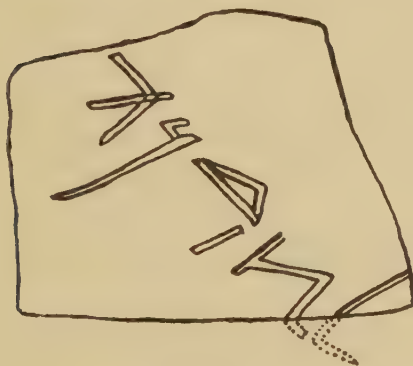
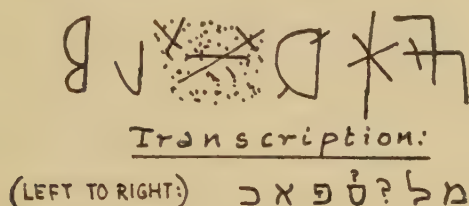


FIG. 6.

written in this script and considered by Father Burrows, who first published it, as "considerably older than a date in the tenth-ninth century [B.C.]" (Fig. 6.)¹

From $\pm$ B.C. Palestinian Epigraphy resolves itself into the history of the "Phœnician" type of writing. The gradual encroachment of this type upon the sister-scripts now reaches a point where it dominates and supersedes them. With this period, therefore, begins the second chapter of our study.

¹ *Journal of the Royal Asiatic Society*, 1927, p. 801.

Postscript.—Since this paper was set up in type, further specimens of the “Sinaitic” script have been discovered at Tell Duweir, Byblus and Tell el Ajul. These are briefly discussed hereunder.

Several of the signs occurring in the new inscriptions are paralleled not only in the Serabit graffiti, but also in masons’ marks found in early levels at Gezer, Tell el Hesi, Jerusalem and Megiddo. It is therefore no longer possible to dismiss these latter as mere geometrical patterns.

I have considered it more prudent at the present to furnish materials for the precise identification of the signs than to hazard interpretations. A complete list of parallels is, therefore, given in each case, the references being to the masons’ marks figured in Diringer’s excellent work, *Le Inscrizioni Antico-Ebraiche Palestinesi*, Plates XXV–XXVII. The following abbreviations are employed :—J—Jerusalem ; H—Tell el Hesi ; G—Gezer ; M—Megiddo. The Jerusalem specimens were found in the foundations of the Temple. Their correspondence with signs found at Byblus strongly supports the statement in I Kings 5, 32 (M.T.) that “Solomon’s builders and Hiram’s builders did hew them, *and also the men of Byblus* (תַּחְבָּלִים AV. “Stonesquarers”) : and they prepared the the timber and the stones for building the House ” (EV. 5, 18).

1. TELL DUWEIR POTSHERD. DATE circ. 1250 B.C. (Formerly read as Egyptian !)

1. Sinaitic ‘ayin ; also underlies Ras Shamra cuneiform ; Diringer XXV. 3, 4, 13 (J) ; XXVI. 10 (G) ; XXVII. 37 ? (M.V.).

2. Cf. Byblus, 1, 5 ; Dir. XXV. 17b (J) ; cf. also XXVII. 35 (M.V.). Probably zayin.

3. Sinaitic kaph (not tav, which lacks the hook).

4. Dir. XXV. 9, 11 (J) ; XXVII. 37 (M.V.). But cp. also XXVII. 15 (G) and ‘Ain Shems Ostrakon, Obv. 1, 4. Since ‘ayin is the plain lozenge, this may well be teth.

5. Cf. Dir. XXVI. 31, 35 (H), and the famous Gezer sherd. Cf. also modification in Byblus, and form underlying RS. cuneiform. This is clearly beth.

Space indicating division of words.

6. The same as No. 1 above.

7. Dir. XXV. 16 (J). *Cf.* also XXVII. 54 (Hirbet et Tubeiqa, circ. 500 B.C.). Identification difficult. Serabit and RS. analogies suggest qoph, but sense obscure. At all events, letters 7, 8 and 9 are not identical, as has been assumed.

8. Dir. XXVI. 29 (H) ; XXVII. 7 ; XXVII. 20 (G). *Cf.* form of resh at Byblus and on 'Ain Shems Ostrakon, showing that pictogram had become linearized by 1500 B.C. The letter could be r or q. The latter is perhaps, after all, preferable, since the combination -rl is rare in Semitic.

9. Sinaitic lamed.

In the first complex, if we read from left to right, ṭb "good" may be seen, preceded by a biliteral noun beginning with 'ayin and bearing 2nd sg. possessive suffix, e.g. 'zk "thy strength"—evidently addressed to a deity.

2. TELL DUWEIR CENSER-LID. DATE CIRC. 1250 B.C. PAINTED ON UNDERSIDE.

(Left to right).

1. 'Ain Shems Ostrakon, Obv. II, 1 ; Dir. XXV. 1, 6 (J) ; XXV. 41 (Ahab's palace in Samaria) ; XXVII. 39 (M.V.). *Cf.* also later Phoenician forms. This is zayin.

Large space.

2. Serabit and Ph. gimel. Cp. Byblus, II. 2, 4 ; Dir. XXV. 33 (M.VI) ; XXVI. 28 (H) ; XXVII. 2 (H) ; XXVII. 44 (M.VI).

3. This letter is curtailed by the edge of the censer-lid. It has been compared with letters 4 and 6 on the Ewer, now thought to be waw.

If the space really indicates a division of words, z standing alone can only mean "this is" (Hebrew זֶה , &c.). gw will then be Hebrew *gew* "back, underside."

3. TELL DUWEIR BOWL. DATE CIRC. 1250 B.C.

Most of the letters recur at Serabit. The legend reads bšlšt followed by a word-dividing stroke (as in RS. cuneiform !), an unidentified letter and some illegible traces, variously deciphered.

Initial b stands between that of Byblus and of Ph.I. The unidentified character may be yod or kaph, probably the latter.

The legend possibly refers to a divine triad, for Starkey has shown that archæological evidence points to the temple's having been dedicated to a triad. Cp. the three dots followed by three divine names on the Ewer. Triads are known from Byblus and S. Arabia. Cp. also the 3 reservoirs in the sacred precincts at Serabit and Tell Nasbeh, and *cf.* the allusion in the Ras Shamra text 1929, No. V. 4-5 to offering libations for the 3 tanks in the temenos (wtnn úspgt.. lšlšt mzn dr—sense after the Arabic).

4. BYBLUS FUNEREAL PLAQUE. DATE : CIRC. 1500 B.C. DISCOVERED BY DUNAND IN 1933, AND FIRST EXPLAINED BY GRIMME IN LE MUSÉON, 1936, PP. 85-98.

The legend runs : (1) ank 'z... (2) bgbl rb k(hnm) (3) ay p šhl ḥrṣ g(nb ?) : " I am 'Az..., high priest in Byblus. Here is no golden vessel, O th(ief ?)."

For the name 'Az..., Grimme quotes the much later Aza and Azbel from Byblus, but a stele from Ras Shamra already has the name '-z-n. Cp. also Azanu(m) in KB. IV. 12, 2 (reign of Zabium) and CT. XXIX. 2c.5 (before Hammurabi). The Hittite text, 2 BoTU, VII. 43 mentions one *Hu-uz-zi-ia-na*, king of Zalbuwa.—For the title rb khnm Grimme cites a 3rd cent. B.C. inscription from Piraeus (Cooke, NSI. 35), but this occurs already at Ras Shamra (colophon to I AB ; axe-heads ; 1929, XVIII, 1).—In the last line, Grimme cps. Tabnith 4-5 : " Here is no object (?) of gold, neither of silver." I would also compare Eshmunazar, 5 : " Let him not seek for anything with me, for there with me there is not anything at all."—Grimme identifies šhl with a word šlh " dish," taking the medial h as a mater lectionis, and assuming that final -h dropped out before initial ḥ of ḥrṣ. But the analogies cited by him are not convincing, being cases where proper-names are spelt slackly because pronounced slackly. I therefore identify šhl with sl in RS. II AB. II. 27-8 : šl kšp wn ... ḥrṣ, where it must mean " bowl." In JRAS. 1935, p.20 n.63 I have compared Syriac miṣwal " bowl," reported by Wetzstein in ZPV. 1891, p.3.



THE TELL DUWEIR BOWL

NEW "SINAITIC" INSCRIPTIONS		
1. <u>TELL DUWEIR</u> <u>POTSHERD. -</u>	1 2 3 4 5 6 7 8 9	c. 1250. B.C.
2. <u>TELL DUWEIR</u> <u>CENSER-LID.</u>	3 2 1	c. 1250. B.C.
3. <u>TELL DUWEIR</u> <u>BOWL.</u>	(7-10) 6 5 4 3 2 1	c. 1250. B.C.
4. <u>BYBLUS.</u>	6 5 4 3 2 1 7 6 5 4 3 2 1 9 8 7 6 5 4 3 2 1	c. 1500. B.C.
5. <u>TELL EL AJJUL (GAZA?).</u>	4 3 2 1	XVIIIth Dynasty.

5. TELL EL AJUL POT : DATE : XVIIITH DYN. PETRIE, ANCIENT GAZA II. Pl. XXX.

Mr. Starkey first suggested to me that this was a specimen of the "Sinaitic" script. The characters recur at Serabit, with one exception.

Both lamed and resh face to the left ; hence, read from right to left.

1. Serabit lamed.
2. Cp. Phœnician yod, already linearized in Byblus III, 2.
3. Serabit resh, on the way to the full linearization of Byblus and 'Ain Shems.

4. Doubtful. Resembles Phœn. gimel, but top stroke in wrong direction. I had thought this might really be a gimel, the inscr. reading from left to right, but the direction of lamed and resh are against this assumption.

The legend is preceded by a flourish (scarcely a nun) to try out the brush, and ends with a dot (abbreviation ?) as on the Byblus inscription. Initial l- indicates ownership.

I take this opportunity of appending two brief epigraphic notes :

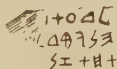
A. 'AIN SHEM'S OSTRACON, REVERSE, LINE 1 ;

I read this name S-M-[']-N, i.e., SIMEON. The top of the Shin is rubbed, but discernible.

{ 0 ξ }

B. AHIRAM INSCRIPTION : SUPERScription.

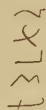
The second line has been variously read. I suggest that letter 4 is a ligature of peh and qoph. The word will thus be y-p-q-d, and we may render : " Take note ! . . . Behold, there is a warning for thee hereunder." This refers to the warning against rifling the tomb contained in the following inscription.



I should also like to take this opportunity of calling attention to an hitherto unnoticed specimen of " Tell Duweir " script occurring on a broken seal photographed by M. D. J. Jermakov of Tiflis and reproduced by Zakharov in *Archiv Orientalni* 1935, Pl. VI. fig. 7 (facing p. 36).

*d

The seal, only the left half of which remains, images a winged man standing naked. To the left of the figure runs the following inscription written vertically :



It will be seen at once that, from left to right :

Sign 1 is the nun (nakhash) of the Tell Duweir Ewer.

Sign 2 is the third from left on the Tell Duweir " Nefer Neferu " inscription, resembling the Sinaitic kaph.

Sign 3 is the second from left on the Tell Ajul Vase. It may be a reversed gimel, or possibly a peh.

Sign 4 is the shin of Ewer and Bowl.

Sign 5 looks at the first blush like a tav, but it may also be the second sign from left on the " Nefer Neferu " inscription, for note the seemingly curved top.

I cannot yet make sense of the inscription. The direction of the shin would indicate that the legend reads from left to right, if indeed it is to be read horizontally. Alternatively, it may read vertically from 5-1.

The seal is said to come " probably from Asia Minor," but no more precise information is given. If this be the true provenance, it is interesting to find the " Tell Duweir " script in the North. This will have a bearing on its adaptation to Ras Shamra cuneiform. Also, it is interesting to find this script used in glyptic art.

I hope to come back to this seal at a later date.

THE TABGHA MOSAICS

TABGHA, or et Tabghah, lies on the western shore of the Sea of Galilee, less than two miles to the east-south-east of the site of Capernaum, which is now generally identified with Tell Hum. It is well known to readers of this Journal that, in 1932, Father J. Tapper, of the Hospice at Tabgha, and some German archæologists, carried out some excavations near Tabgha which resulted in the discovery of the foundation of an ancient basilica and a fine mosaic floor. In the "Quarterly Statement" for July, 1933, there appeared this note: "The Tabghah mosaics recently unearthed in the Tabghah basilica between Tiberias and Capernaum constitute another interesting piece of evidence relating to the early development of Christianity. Dr. Schneider, in a recent lecture on the mosaics, expressed the opinion that they belonged to the second half of the fourth century."¹

This little basilica of "The Loaves and Fishes" is situated in a field close to the shore of the lake, and was built as a memorial of the miracle of the loaves and fishes. In the year A.D. 386 it was visited by Etheria, from Galicia, in Spain, who made a pilgrimage of some years' duration to Palestine, Syria and Egypt. Fortunately she kept a diary (written in rather slipshod Latin). Whilst visiting Heptapegon (seven springs), a spot between Tabgha and the ruins of Capernaum, Etheria wrote: "There is a fertile field near the Lake of Galilee with plenty of pasture and many palm trees, and nearby seven springs, from each of which gush copious streams of water, and in this field the Master fed the people with five loaves and two fishes."

"Indeed the stone on which the Master placed the bread has been made into an altar, and from this stone visitors chip off pieces for their healing and all benefit thereby."

The above answers closely to the condition of Heptapegon at the present day. A considerable area was purchased some

¹ See also "Biblica" 1932, p. 293.

years ago by the German Verein vom Heiligen Lände, whose representative on the spot is Father Tapper. He and others knew of the above passages in Etheria's diary, and in 1932 excavations were undertaken by some German archæologists. They soon came upon the foundations of an ancient basilica, and, digging deeper, discovered a floor in mosaics revealing beautiful pictures of the local flora and fauna, though, alas, several of the pictures were badly sagged. It was known to the investigators that the church mentioned by Etheria was in existence in the sixth century, but that it had entirely disappeared, ruined, it is believed, by an earthquake in the next century, and had since been completely lost. Father Tapper, anxious to prove the existence or otherwise of the altar stone mentioned above, dug at the spot where the altar must have stood, and to his amazement, came upon a large rough stone which clearly showed signs of having been chipped. Beside it lay some small stone pillars on which it probably stood, whilst behind it was found a mosaic picture showing a basket of loaves, each loaf having on it a cross, and on each side of the basket was represented a fish.

Father Tapper's aim was to preserve the mosaics, but this involved considerable outlay, as all the pictures required taking up and repairing, from the reverse, by an expert; the floor required levelling and relaying and the whole wanted roofing in. All authorities agreed that the mosaics, attributed to the fourth century, should be saved, and it is understood that the Government of Palestine made a grant of £100 for the purpose. But, clearly, a good deal more money was required and Father Tapper began his appeal for donations. Meanwhile he fenced in the discoveries and covered the mosaics with a deep layer of fine ashes and sawdust. Early in 1935 he opened his heart to a Scots friend, much interested in archæology, who was a guest at his little hospice which has been so well described by Mr. H. V. Morton, and this friend agreed to raise a sum of £400, but, as this could not be done in a day, he urged Father Tapper a few months later to proceed at once with saving the mosaics before another winter's rain took further toll of them, and he promised to be responsible for this sum, although his circumstances hardly permitted of this.

Father Tapper lost no time and soon secured the able



THE TABGHA MOSAICS

services of Dr. Alfons M. Schneider, as archæologist, and of Dr. Bertrand Gauer, of Dusseldorf, as mosaic expert. All the mosaics, after careful preparation, were lifted and removed to safety for intricate repair. The floor of the little basilica was levelled and laid in re-inforced concrete. On the foundations of the basilica tufa walls were raised high enough to carry a roof, and the building has now, to a certain extent, regained what is believed to have been its early appearance. The mosaics have lately been relaid in exactly their original position. A good deal of work has still to be done internally, although the building is not to be used as a church. Then it is proposed to build a stone wall round the outer area and to lay it out as a garden. As usual the expenditure has exceeded the estimates and more money is now required.

Last year Dr. Schneider, whose name has been mentioned above, published a book on the whole work. He has kindly allowed an English translation to be made, and brought up to date, and it is hoped that this will be on sale in England early in 1937. It will show pictures of most of the mosaics, which resemble, in some respects, the fourth century mosaics in Santa Costanza in Rome. Posterity will owe a deep debt of gratitude to Father Tapper for having saved them.

If any reader is inclined to help, donations can be addressed to Major A. A. Gordon, Bridge of Allan, Stirlingshire, who will gratefully acknowledge the same and transmit them in due course to Father Tapper.

C. F. C.

THE TREPHINED SKULLS FROM LACHISH

BY REV. J. W. JACK, D.D.

THE interesting examples of trephining (or making a hole in the skull), which are seen in three well-preserved specimens found recently in the large collection of skulls at *Tell Duweir* (Lachish), not only raise the problem of ancient surgery, but probably involve deeper questions of magical significance. Similar curious cases of holing of the skull have been found in large numbers in widely scattered parts of the world, and cannot all have had a merely surgical purpose. Since they were first noticed in 1872 by the French physician Prunières, in the neolithic caves of Central France, they have been discovered in strata of the same age in Denmark, Bohemia, Italy, Portugal, Britain, North Africa, and even the two Americas.¹ The cases, indeed, are so numerous that trephining seems to have been a common operation in ancient times. In a mound in France, containing 120 skeletons, no less than forty had trephined skulls. The Yale expedition to Peru, South America, in 1914 and 1915, which found 250 Inca skeleton crania in the caverns north-west of Cuzco, discovered that 18 per cent. had been trephined, and one had as many as five holes in it.² The examples recently found at Lachish only add to the already long list. The methods employed in ancient times have been the subject of much speculation and argument. They seem to have ranged from attrition with flint or metal implements to drilling and cross-hatching (*cf.* the two different types in the Lachish specimens). In some of the cases the skulls have evidently been trephined while the individuals were living, as may be deduced from the smooth and rounded edges of the hole, showing that healing, to some extent at least, had taken place, though in numerous instances, especially where a saw

¹ Broca, *Mémoire sur la trépanation du crâne et les amulettes crâniennes à l'époque néolithique*, Paris, 1877.

² Duncan, *Prehistoric Man*, p. 76, Boston, 1931.

had been used, death probably ensued in two or three weeks. In other cases, however, it is clear that the operation had not been carried out till the individuals were dying or till after death, as there are no signs of reparation of the cut portion (the edges being sharp), and this aspect of the matter adds to the difficult problem of discovering the real motive.

In many cases of the living, it may be granted that trephining was adopted without any magical import, simply to deal with head injuries such as those received by accident or in battle. In the *Hippocrates Collection*, which is a treatise containing Greek medical writings dating from the fourth century B.C., there is a section on "Wounds of the Head," which includes a description of trephining. But ages before this, there were undoubtedly primitive surgeons in existence, who sought to heal various parts of the body by operation. In prehistoric times, before metal was discovered, their outfit would consist of flint saws, knives, scrapers, chisels, and borers. It is known that their operations embraced amputations of finger, arm, and other parts, correction of deformities, cauterization, scarification, and setting of fractures (remarkable skill was shown in this last). There is no reason to doubt, therefore, that in several cases of trephining, the sole object, like that of modern surgeons, was simply to heal injuries, or remove diseases affecting the head. The operation must have been a very serious one, as Dr. T. Parry Wilson has pointed out in his article on the matter,³ especially when the surgeon had no metal hard enough for a saw and was limited to a flint one.

At the same time there can be no question that in numerous cases trephining was adopted with a magical purpose, in the hope of removing general illness or bodily disease. The hole in the skull was intended to permit the expulsion of the evil spirit which had introduced itself into the body and was believed to be the cause of the disorder, in accordance with the theory of uncivilized or superstitious people that maladies, whether bodily or mental, were due to demoniacal possession. For the same reason trephining is a common practice still—or was until quite recently—among the natives of Polynesia, Montenegro, Peru, and Bolivia; and there are untutored or barbarous tribes, both in the Old and the New Worlds, who

³ *Man*, October, 1936.

have the same end in view in applying massage, suction, bleeding, or burning. In all such cases the result of the operation, if successful (as it often is, though always empirically) is attributed to the departure of the disturbing demon. In ancient times especially, we can understand that trephining would thus be in vogue for various ailments. Headaches would probably be the most common. Convulsions, delirium, epilepsy, lunacy, and similar diseases would be treated in like manner. After the evil spirit had taken its departure, the opening was sometimes closed by means of rondelles or patches evidently taken from some other head.

Apart from this aspect, it is not improbable that in some cases of trephining in ancient times the operation was connected with a religious initiation, as observers have found among some sections of the great Berber race in North Africa, especially the Kabyles. Its object with such tribes seems to have been to give the soul freedom of communication with external supernatural powers, or perhaps to offer to the gods a vital part of the body as a substitute for the whole person—an idea still to be found in certain religious sects which mutilate their bodies (nails, hair, bones of finger or toe, &c.), in order to offer something which they regard as of value.

There is little doubt that trephining, where it was performed upon the dead, had as one of its objects the furnishing of a special opening by which the soul or spirit could escape from the body. The living tenant was supposed to reside in the skull (which perhaps accounts for the phrase "to swear by the head," Matt. v, 36), and it was conceivable that after death it might linger there unable to find its way out. It is related by Sir J. G. Frazer that, among some tribes in the Central Provinces of India, a son would sometimes strike his dead father's skull seven times with a log on the funeral pyre in order to open his crown and so let his soul escape.⁴ It is on the same magical principle that the Karens of Burma, the Basutos of South Africa, and other peoples will sometimes make a hole in the thatched roof of the house when someone has just died within. In some parts of Europe, even in England and Scotland, it is said to be still customary with some people after a death to open the doors and windows, in

⁴ Frazer, *The Fear of the Dead*, I, p. 179.

order to let the soul fly freely away. At all events, in ancient times, large numbers of people in all parts of the world seem to have believed that the soul or spirit continued to be imprisoned in the skull, unless an opening was made through the hard bony substance for its departure. Perhaps this was the reason for trephining in the two Lachish examples which contain a rectangular aperture without any signs of reparation.

Still another object of trephining seems to have been to secure amulets of a valuable and efficacious nature.⁵ The rondelle or detached piece of skull bone was perforated and worn round the neck or on the breast as a prophylactic against disease, danger, or the malign influence of evil spirits. It is probable that such bony amulets were used as curative agents in epilepsy and other convulsive disorders, and perhaps in persistent headache. In all cases the value of the amulet would no doubt depend on the rank of the individual whose skull was used; and perhaps this may account for the hypothesis, believed to be correct, that trephining was reserved for the skulls of individuals who, by reason of their knowledge or temperament or social status, were considered to be in possession of a superior nature or in direct communication with the supernatural world.

In view of the prevalence of such ideas in ancient times, extending back even to prehistoric ages, it is difficult to come to any conclusion as to the purpose of the trephining discovered at Lachish. The three specimens are unique, being the only ones discovered so far in Palestine or the Near East, and two of them, strange to say, correspond in their cross-hatching to some of those found as far away as Peru. But while they may be cases of mere surgical operation with a simple therapeutic intention, the question is worth considering whether they may not have had a magical bearing of some kind. Dr. Wilson Parry states, in regard to skull No. 1, that "towards the posterior inferior angle of the left parietal on this skull is an incision 3.1 cm. long, indicating that the primitive surgeon had thought of placing the operation on the other side of the skull, but decided on second thoughts to do it where it now lies."⁶ This fact tends to show (though the

⁵ Goblet D'Alviella, *Croyances, Rites, Institutions*, II, p. 381.

⁶ *Man*, October, 1936, Section 234.

proof is not definite) that the object of the operation was not of a merely therapeutic kind. We know how deeply superstitious practices had infected Judah by the beginning of the seventh century B.C. It is true, there are no direct evidences among the Semites of trephining for magical purposes, but we have abundant information nowadays to show that such traditions and practices were world-wide, being found in almost identical form in regions far distant from each other ; and, as a matter of fact, the great mass of the Jewish people, when allured by the superstitious tendencies of other races, troubled themselves little as to whether these were Semitic or not.

THE TROGLODYTES OF GEZER¹

BY G. ERNEST WRIGHT

(THE JOHNS HOPKINS UNIVERSITY, BALTIMORE)

It is well known that when Macalister excavated Gezer some thirty years ago, he found the surface of the tell honey-combed with caves, most of which had been used originally as dwellings and later as tombs. In one of these caves (Cave 2 I) were well over a hundred skeletons, some fifty of which belonged to a small-boned, long-headed people, who had, apparently, cremated their dead. Over these remains was an even greater number of inhumed skeletons belonging to a much larger, broad-headed people.² Macalister naturally assumed that these small, long-headed skeletons belonged to the earliest occupants of the tell, who had dug out the caves and lived in them. The large, broad-headed people, on the other hand, he believed to be the first Semites, who displaced the earlier "Pre-Semitic" folk, built their dwellings on the surface of the rock, and used the caves for the burial of their dead.³

This interpretation of the situation has been generally accepted, and many theories have been woven about these "Pre-Semitic" Troglodytes. Kittel, for example, in his *Geschichte des Volkes Israel*⁴ went so far as to suggest their identification with the Biblical Horites, the basis being the

¹ This article is an expansion of a paper which was read before the meeting of the American Oriental Society in New Haven (April, 1936). For many suggestions during its preparation, the writer wishes to express his gratitude to Professor W. F. Albright. The following abbreviations should be noted: *AASOR*—*Annual of the American Schools of Oriental Research*; *AAA*—*Annals of Archaeology and Anthropology*; *BASOR*—*Bulletin of the American Schools of Oriental Research*; *G*—Macalister, *The Excavations of Gezer*; *QS*—*Quarterly Statement*.

² For an excellent description of these remains, see the account by the excavator's father, Professor Alex. Macalister, in *QS*, 1902, 353 ff.

³ *G* I, 6-7; *QS*, 1904, 108 ff.

⁴ Fourth edition, pp. 38-9.

supposed etymology of the word.⁵ In the minds of most scholars the whole picture of early Gezer has been very obscure indeed, especially since the chronology of the period has been so uncertain.

Within the past three years, however, the Chalcolithic and Early Bronze Ages have emerged from much of the obscurity which formerly surrounded them. The excavations of Teleilat el-Ghassûl, Megiddo, and Beth-shan had clarified the picture considerably by 1935.⁶ But the recently published reports of excavations of Jericho and Ai have furnished materials badly needed for the determination of the sequence of the various cultures.⁷ When all the available material is now surveyed, the following may be said to be rather definitely established: In the first place, the Jericho excavations have pushed back the much disputed Ghassulian culture to the fourth millennium.⁸ In the second place, four phases are now clearly distinguishable within E.B. The first phase is separated from the Chalcolithic by the appearance of certain new forms, the most characteristic of which are an inverted-rim bowl, an undecor-

⁵ Scholarly opinion now identifies the Horites with the Hurrians: see Speiser, *AASOR*, 13, 26 ff. and Albright in the George L. Robinson memorial volume, *From the Pyramids to Paul*, 9 ff.

⁶ See Mallon, Koepfel, Neuville, *Teleilat Ghassûl*; Engberg and Shipton, *Notes on the Chalcolithic and Early Bronze Age Pottery of Megiddo*; and FitzGerald, *Museum Journal*, 24 (1935), 5 ff.

⁷ Garstang, *AAA*, 22 (1935), 143 ff. and Mme. Marquet-Krause, *Syria*, 16 (1935), 325 ff. The first attempt at correlating the Beth-shan, Megiddo and other important deposits was made by Albright in *Journal of the Palestine Oriental Society*, 15 (1935), 193 ff. But at that time there were still important groups which could not be dated with any degree of certainty. The new Jericho and Ai materials have provided many of the missing links, so that it is possible to trace the history of many individual pottery forms for the first time, and distinguish clear-cut phases in which every E.B. deposit can be fixed. The writer has attempted a survey of all the available material, and, in a preliminary way, has presented it with a series of charts in *BASOR*, 63 (1936), 12 ff., to which frequent reference will be made during the course of this paper. There, the E.B. phases were given Greek letters as provisional names in order to avoid the terms E.B. I, II, III, in whose use there is so much confusion.

⁸ See *AAA*, 22, 147 ff., 163 ff., and pls. 39-45. This means the complete vindication of the position of Albright, who, practically alone, has held out for the early date of this culture, while Vincent, Mallon, and others have brought it to an end as late as the beginning of M.B. II.

ated ledge-handle, an ear-handled juglet, a flaring-necked pitcher of a peculiar type, and a neckless jar with a ridge just below the rim⁹—most of which can be shown to have come into the country from the north, probably from Syria and Anatolia. Characteristic of this period is the fine painted pottery, so characteristic in fact that we might call it “The Painted-Pottery Culture” of Palestinian E.B.¹⁰ This painted-pottery phase is well defined since in the stratigraphical excavations of Jericho, Beth-shan, and Megiddo it falls immediately before pitchers of a type well known from the Syrian examples found by Petrie in the Royal Tombs of the First Dynasty at Abydos.¹¹ In Palestine these appear quite suddenly along with typical E.B. platters, stump-base vessels, and pushed-up ledge-handles, marking the beginning of a second phase whose date may be given as approximately the twenty-ninth century, if we adopt the minimum chronology for the First Dynasty.¹² The painted-pottery phase, then, falls in the late Predynastic period immediately before the First Dynasty.

A third phase is characterized by the native potter's imitation in clay of certain Egyptian stone vases during the early Pyramid Age, and by the sudden appearance and disappearance of a beautiful carinated ware, which was imported from Syria and is called in Palestine the Khirbet Kerak ware from the site where it was first found. These clay imitations of stone vases and several Egyptian stone bowls from a sanctuary at Ai roughly synchronize this phase with the Pyramid Age.¹³

Finally, there is a fourth or transitional phase which has not been clearly recognized thus far. This is represented by certain deposits at Megiddo, Bethel, Beth-shemesh, Jericho, Tell Beit Mirsim, the Wādī Ghazzeh, and several sites in Moab and Edom, where typical forms of the other phases

⁹ These are forms A-I c, II a, VI a, b, and c, IV a, VIII a in *BASOR*, 63, 16. Other characteristic forms are shown on the same chart.

¹⁰ The finest collections of this painted pottery are those from Tomb 3 of Ophel (*Jérusalem sous terre*, pls. 9-11) and the Ai necropolis (*Syria*, 16, pls. 57-8), pinned to this phase particularly by the Jericho and Beth-shan materials—*cf.* *BASOR*, 63, 13.

¹¹ See form B-IV d in *ibid.*, 17. *Cf.* also p. 14.

¹² *Cf.* forms B-III a and b, IV b, I e, respectively in *ibid.*, 14. For the minimum chronology, see Albright, *op. cit.*, pp. 209 and 210 n. 48.

¹³ *BASOR*, 63, 15 and 21.

either have died or are dying out, and new forms characteristic of subsequent periods are appearing. Among these wares are imported vases, typical of the First Intermediate Period in Egypt, which give a chronological peg for the phase.¹⁴

Thus the Chalcolithic and Early Bronze Ages of Palestine are no longer the dark age that they were as recently as three years ago, and, thanks to Macalister's careful and detailed recording, we can now approach the problem of the Gezer Troglodytes with some expectation of positive results. The immediate problem before Macalister after the discovery of the Crematorium (Cave 2 I) was that of assigning a pottery horizon to each of the two peoples whose remains were found. Accordingly, he separated the ware of the cave in question into two groups, "Pre-Semitic" and "First Semitic" pottery, though his only criterion was admittedly the comparative roughness or coarseness of paste and form.¹⁵ In the light of our present knowledge a study of this important deposit is very instructive. When the individual forms of the "Pre-Semitic" and "First Semitic" groups are compared even in the most casual manner, the conclusion is now inescapable that this is an homogeneous group of pottery.¹⁶ Comparison with other deposits makes this homogeneity certain, for the deposit represents a series of types belonging to the first phase of E.B., almost every form of which can be duplicated among the wares of Tomb 3 of Ophel, the Ai necropolis, Jericho "E.B. 1," and other painted-pottery groups.¹⁷ Most noteworthy are the plain ledge-handles, inverted-rim bowls, single-ear bowls, painted bowls, loop-handled cups, ear-

¹⁴ For a more detailed description with references, see *loc. cit.*

¹⁵ Cf. *QS*, 1902, 356; also *G II*, 131.

¹⁶ This pottery is conveniently grouped together in *QS*, 1902, 356 ff., figs. 20-22 and pls. 9-11 (see *G II*, 135 fig. 305; 138 fig. 308; 152 figs. 314-15; 153 fig. 316; and 154 fig. 317). Comparison of *QS*, 1902, pl. 9 with pls. 10-11 (*G II*, fig. 305 with figs. 316-7) shows that the bowls, the cups, and the juglets are the same in form and two periods can scarcely be postulated for them.

¹⁷ For the Jericho wares, cf. *1AA*, 22, pls. 36-9. Other comparative material from the same period comes from Tell el-Hammeh (*American Journal of Archaeology*, 39 [1935], 321 ff. and pls. 37-8), Tell Hammām and 'Adjlūn (*Teleilat Ghassul*, pls. 61 and 64), and Tell en-Naşbeh (Badè, *Excavations at Tell en-Nasbeh*, 1926-7, 44).

handled juglets, a jug with false-spout handle, and other jugs with either lug-handles or ledge-handles or both, all of which are typical of the period.¹⁸ The pottery of Cave 2 I, then, is an homogeneous series from the first phase of E.B.

The other "Pre-Semitic" and "First Semitic" tomb-groups can be dated with almost the same precision. Cave 3 III, according to Macalister, "is an illustration of a common case—the adaptation for sepulture in a later period of a cave used for occupation in an earlier."¹⁹ The pottery is of the same period as that from the Crematorium.²⁰ The same can be said for Cave 19 I, whose deposit was sealed by the Inner Wall which was built directly over it. In this cave the burial was made in an enclosure similar to those of the later burials in the Crematorium.²¹ Cave 27 I was also sealed by the Inner Wall, and its burial deposit dates from the same period as those of the above caves.²² Tomb 42 is an homogeneous deposit

¹⁸ See *BASOR*, 63, 17: forms A–I c, II a, b, and d, V a, VI a and c, VII b and c for the types in question. An interesting form is the chalice (*QS*, 1902, pl. 10: 17—*G II*, 153 fig. 316: 17. For an enlarged drawing, *cf. Bulletin of the Palestine Museum*, No. 3, pl. 3: 2) which has also been found at Jericho and Ai in appropriate sequence (*cf. AAA*, 22, pl. 36: 4 and *Syria*, 16, pl. 58: 17).

¹⁹ *G I*, 77. The pottery is in *G III*, pl. 16.

²⁰ Decisive for this dating are the pitcher with flaring neck and the neckless jar with a bell-spout and a small plain ledge-handle (*ibid.*, pl. 16: 2 and 4). The Beth-shan, Jericho, and Megiddo deposits would confine this type of pitcher to this phase alone (*cf. Notes...*, 23 fig. 7: F; *AAA*, 22, pl. 36: 3; and *Museum Journal*, 24, pl. 5: 12–13).

²¹ *Cf. G I*, 107 ff. The pottery is pictured on p. 108 fig. 37: several examples of "band-painted" ear-handled juglets of the same type as those found in Tomb 3 of Ophel—see *BASOR*, 63, 16: form A–VI a. Two store jars are said to have come from this cave also: *G II*, 132 fig. 302, and 134 fig. 304. The latter is a type of which there are no published parallels. The former is a rather common type of Jericho, Tomb A: *cf. AAA*, 19, pl. 6: 15–16, which may mean a second burial in the cave in the third phase of E.B. The history of this particular jar-form, however, eludes us at present.

²² *Cf. G III*, pl. 28 and pl. 29: 1–2. The juglets, loop-handled cup, and inverted-rim bowl together ensure this dating: *cf. BASOR*, 63, 16: forms A–VI b, V a, and II a, respectively. The loop-handled cup seems to be a late Chalcolithic form (it is Megiddo type 24 of Stages VII–IV) which becomes very characteristic in the first phase of E.B., after which it rapidly disappears, immediately losing its high loop-handle for the more conventional rounded form (*cf. ibid.*, 17: form B–V a).

of what Macalister considered to be a very valuable series of early "First Semitic" pottery,²³ and it also is to be dated in the first phase of E.B. The thumb-indented ledge-handle, the high-loop-handled cups, and the spouted jar with lug-handles prove that the deposit cannot be later than this phase.²⁴ The ear-handled juglet, the peculiar spout, and the carinated bowl prove that the group can scarcely be earlier.²⁵ Tomb 56 was disturbed by an interment in L.B., but the early pottery represents, according to Macalister, "well-established First Semitic types."²⁶ Now we can say that it is a fine group of well-established types of the first phase of E.B.²⁷

The above deposits all accompany interments. Caves 11 II, 15 I, and 30 II, on the other hand, contain pottery which belonged to their original inhabitants. Cave 11 II contains "the ordinary contents of a Troglodyte abode," Cave 15 I the same (though disturbed for burial and then for a cistern in M.B. II, contemporary with Tell Beit Mirsim, stratum E), while Cave 30 II is "an undisturbed Troglodyte dwelling."²⁸ Interestingly enough, however, the pottery is indistinguishable from that of the above tomb deposits and must also be dated within the first phase of E.B.²⁹

²³ G I, 318-19.

²⁴ See G III, pl. 79:5-25. At Megiddo, Beth-shan, and Jericho the thumb-indented or scalloped ledge-handle disappears during the course of the first phase of E.B. The spouted jar is Megiddo type 23 C of Stages VII-IV, which also appears at Beth-shan though only in level XIV.

²⁵ *Loc. cit.*, nos. 21, 18, 15, respectively. Similar spout-forms appear in the Crematorium (G II, 153 fig. 316:3) and the Ai necropolis (*op. cit.*, pl. 58:4). For similar bowl forms, *cf. ibid.*, pl. 58:22; *Museum Journal*, 24, pl. 5:18 (level XIII), and *AAA*, 22, pl. 30:20 and pl. 39:10, which confine the form to the first and second phases of E.B.

²⁶ G I, 320-1.

²⁷ See G III, pl. 79:36; 80; 100:19-28. Pl. 80:18 is an interesting form which also appears in the Ai necropolis: *op. cit.*, pl. 58:2 and 7.

²⁸ G I, 83, 86 ff., and 143. Cave 11 II, however, is listed as "First Semitic" in G II, 153, indicating a change of mind on the part of the excavator after his dating and description in G I, 83 f.

²⁹ Datable pieces in Cave 11 II are a fragment of a divided handle, and a portion of a painted bowl (G III, pl. 19:5 and 8). Those in Cave 30 II are a loop-handled cup and two sherds of "band-painted" ware (G III, pl. 44:2, 5-6). Cave 15 I gives much the best indication of the ceramic culture of the original cave dwellers. Plain, wavy, and scalloped ledge-handles (a mixture possible in this phase alone: *cf. Megiddo type 14*).

In Cave 6 I was found "one fine Trogloodyte jar," representing in Macalister's mind one of the earliest forms.³⁰ Its closest affinities, however, are to forms in the second and third phases of E.B. and thus it is probably later than any of the pottery so far discussed.³¹ These large pithoi are made of much coarser paste than most of the smaller forms, and Macalister's confusion was quite natural. Cave 16 I was a small oval chamber which was perhaps never used as a dwelling. In any event the burial was probably made in the third phase of E.B.³²

The above groups are the most important deposits of early pottery at Gezer. If now the results are placed in tabular

GROUP	MACALISTER'S DATE	PHASE IN THE E.B.
CAVE 2 I	FIRST SEMITIC	FIRST
CAVE 3 III	FIRST SEMITIC	FIRST
CAVE 6 I	TROGLODYTE	SECOND OR THIRD
CAVE 11 II	TROGLODYTE	FIRST
CAVE 15 I	TROGLODYTE	FIRST
CAVE 16 I	"TROG. & FIRST SEM."	THIRD
CAVE 19 I	FIRST SEMITIC	FIRST (HOMOGENEOUS ?)
CAVE 27 I	"TROG. & FIRST SEM."	FIRST
CAVE 30 II	TROGLODYTE	FIRST
TOMB 42	FIRST SEMITIC	FIRST
TOMB 56	FIRST SEMITIC	FIRST

Fig. 1.

several examples of loop-handled cups, an ear-handled juglet, and a fine example of an "hole-mouth bowl" of Megiddo type 13 whose plain ledge-handles would confine the form at Megiddo to Stages V-IV, all confirm the dating (G III, pls. 20-3, and G I, 91 fig. 31).

³⁰ G I, 80 fig. 26.

³¹ Cf. Megiddo type 11 C of Stages III-I (which, however, has loop-handles), and *Museum Journal*, 24, pl. 9:15 which first appears in level XIII (cf. p. 14). For the typical form of level XII, cf. p. 16. For other examples which seem more comparable, see n. 32.

³² G I, 99. No examples are figured, but reference is made to the type in *Excavations in Palestine*, 7 (not "p. 3" as Macalister's text has it). This form is Megiddo type 16 A which is rare in Stage II, but abundant enough in Stage I to make it a reliable datum for the period (*Notes...*, 44). Other similar forms are in the Ai sanctuary (*op. cit.*, pl. 56:26, 28) and Watzinger, *Jericho*, 100 Abb. 80 and Blatt 20:A, 2a. For the correlation of deposits, see *BASOR*, 63, 20.

form, giving both Macalister's and our own dating, the confusion between " Troglodyte " (" Pre-Semitic ") and " First Semitic " pottery will be clarified (see Fig. 1). These terms are thus quite meaningless, and must be disregarded entirely.³³ Caves 11 II, 15 I, and 30 II evidently were not disturbed by later burials during E.B., and their early pottery must have been left by their original inhabitants. The cave-dwellers of Gezer, then, lived on the mound during the first phase of E.B., in the centuries immediately preceding the First Dynasty in Egypt.³⁴ But during this very same period, several of these caves were used for interments (Caves 2 I, 3 III, 19 I, and 27 I), indicating that there had been a shift in habitation to the rock surface and that the caves could not have been used as dwellings for a very extended period. Caves 6 I and 16 I are the only examples of burial later in E.B., but only the pithoi have been published.

If the above conclusions are correct, we should not expect to find any of the forms characteristic of the second phase of E.B. among the published Cave groups. On the contrary they should appear in the stratum just above the rock, and this is exactly what we find.³⁵ The material which is published from this stratum, however, is very mixed and fragmentary. Certain forms such as *G* III, pl. 143 : 21 and pl. 147 : 7 indicate that the mound of Gezer was probably occupied throughout E.B., though the nature and intensity of this occupation cannot be gauged.³⁶

Returning now to the skeletal remains found in Cave 2 I,

³³ That this is now the case is no criticism of Macalister. The conclusion only comes from a mass of comparative material which has taken thirty years to discover.

³⁴ Further support of this is derived from the fact that, with the exception of the " Cream Ware " (see below), there is not a single published vase from Gezer which need antedate this period.

³⁵ *G* II, 139 and fig. 309. Note especially the second vase which is the same type as that found in the Royal Tombs of Abydos (*cf.* *BASOR*, 63, 17 : form B-IV d).

³⁶ The pottery which Rowe has published from his excavations at Gezer in 1934 is difficult to use, since the register was not published (*QS*, 1935, 19 ff., and pls. 3-4). Pl. 4 may be a homogeneous group of first phase pottery. The forms on pl. 3, however, are very mixed, dating from the first, second, and third phases.

we find the chronology of the two peoples still somewhat difficult. The upper series of inhumed burials, i.e., those of the large, broad-headed people, with which at least most of the pottery in the cave was obviously associated, belongs to the first phase of E.B. But what is the date of the cremated remains, i.e., those of the small, long-headed people? The wares of this cave form an homogeneous group of pottery from one period; and, if a portion of them was associated with the cremated skeletons, then both races belong to this same E.B. phase. Chronologically there is no difficulty, since one or two centuries would be amply sufficient time for both deposits. But the real difficulty is as follows: with such a clear-cut shift in race and burial customs one would normally expect an accompanying change in ceramic culture, a change more radical than can possibly have taken place in a period now so well known from the abundance of material at hand!

It has already been pointed out that with one exception there is not a single published group of pottery from Gezer (including that from Rowe's excavations) which antedates E.B.: that exception is the "Cream Ware" (n.34). This distinctive ware was found, according to Macalister, only on the rock and there usually in groups. It was a light-coloured pottery whose finest pieces were covered with "a rich cream-slip," upon which geometric designs were painted.³⁷ In 1932 Albright identified this ware with the Ghassulian,³⁸ and detailed comparison of the forms with those from known Ghassulian sites shows conclusively that he was correct.³⁹

³⁷ G II, 137 and 150. The types of vessels found are shown in G III, 141:1-13, 143:1-2, and 23:18-21. The latter is the natural rock-shelter, Cave 30 II a, which is not "Troglodyte" as Macalister implies.

³⁸ AASOR, 12, §5.

³⁹ The most striking analogy is the horn-shaped vessel which is also found at Ghassul and Umm Qatāfa (cf. *Teleilat* Ghassul, 104-5, type 27 and pl. 48; Syria, 12 (1931), 36 and fig. 5:1). The various forms of bowls also have parallels: cf. G III, pl. 141:1 and 6 with Syria, 12, 37 fig. 6-8 (identical). For an hemispherical bowl with a semi-disk-base, cf. G III, 141:4 with *loc. cit.*, 7 (identical). The straight-sided (V-shaped) basalt bowls (G II, 254, fig. 402 a) are also found at Umm Qatāfa (Syria, 12, pl. 18:2), while their pottery imitations appear in the Wādī Ghazzeḥ, Sites E and O (*Beth-pelet* II, pls. 38:12 and 39:15; cf. G III, 141:9, 12).

The various Ghassulian sites are probably not all coeval, and as yet we

Since the Ghassulian culture is now definitely confined to the fourth millennium or earlier (see above, p. 68), the "Cream Ware" must represent the earliest culture on the mound of Gezer.

It seems then that the small, long-headed people who cremated their dead in Cave 2 I must have been the makers of the "Cream Ware," i.e., Ghassulian people of the fourth millennium. If this thesis be accepted, the whole situation would be much clarified and the two races would not be crowded into a single E.B. period which otherwise seems to have an homogeneous ceramic culture. It must be remembered that, so far as we know, these small-boned, long-headed skeletons were found in no cave on the mound except the Crematorium, which might well have been the only cemetery of the time and thus the earliest cave on the tell. There is one additional piece of evidence that this was the case. Macalister states that the "Cream Ware" was never found in the caves,⁴⁰ but there is one bowl, found in the Crematorium, which is certainly Ghassulian. This bowl, evidently quite unlike the rest of the pottery from the cave, was not included with it, but published among assorted "First Semitic" wares.⁴¹ In searching for comparative material Macalister admits that this type "is also found in Cream Ware"; and the painted band around the rim, the sharp edge, and the semi-disk-base now prove its identity.⁴² The presence of a Ghassulian bowl in the

cannot fix the exact chronological relation of the "Cream Ware," for example, with Ghassul proper, though there is no doubt that both belong to the same cultural period. It cannot be too strongly stated that Frankfort's identification of the "Cream Ware" with the Syrian Ware of the Royal Tombs of Abydos (*Studies* I, 108 ff.) is entirely out of the question on typological as well as on chronological grounds. For recent restatements of the view, see his *Archæology and the Sumerian Problem*, 29, 33 n.1; and Hutchinson in *Iraq*, 2, 213 where he follows Frankfort, though mistakenly asserting that the "Cream Ware" came from Macalister's "Second Semitic."

⁴⁰ G II, 137.

⁴¹ G III, pl. 145:13.

⁴² Cf. G II, 141 type m. For similar bowls elsewhere, cf. *Syria*, 12, 37 fig. 6:7; and *Beth-pelet* II, pl. 40:37. Professor Albright informs the writer that a sharp edge and a decorated rim are also among the most distinctive elements of bowls from Ghassul, reminding him of Mesopo-

Crematorium cannot be used as proof that this cave was used in that period, but it certainly is a strong indication.

Thus on the basis of our present evidence the most probable reconstruction of the earliest history of Gezer is as follows: The first occupants of the mound were the small, long-headed people who used Cave 2 I as a Crematorium for their dead well within the fourth millennium. Their habitations were probably natural rock-shelters such as Cave 30 II a (see n.37). The Troglodytes, i.e., the people who actually constructed most of the caves with their flint tools, inhabited them for a time during the first phase of E.B., during which they also gradually built dwellings on the surface of the rock and used the caves for the inhumation of their dead. They were a much larger, broad-headed people of whose origin we can, as yet, say little.

Unfortunately, material for comparative osteology in the fourth millennium is not extensive. These small, long-headed people remind us immediately of the Mesolithic Natufian skeletons, found by Miss Garrod near Athlit, but the latter are far earlier.⁴³ At the International Congress of Orientalists in Rome (September, 1935) Dunand described the results of his excavation of a Chalcolithic cemetery at Byblos, whose pottery, he stated, bore unmistakable points of similarity to the Ghassulian. A large number of skeletons were found, giving evidence of a small people with an average height of five feet two inches and with skulls prevailingly dolichocephalic,⁴⁴ characters which agree remarkably with the cremated remains of Gezer. But at present little more can be said. Macalister assumed that these earliest people of Gezer could not have been Semitic, but at present there is simply not enough evidence to ascertain their linguistic or racial group, except that they must have been members of the small Mediterranean race with the "river-bed" type of skull.⁴⁵

tamian techniques of the same period. This bowl-form must not be confused with a type that appears during the third phase of E.B. (cf. *BASOR*, 63, 18: form G-II e).

⁴³ See *Journal of the Royal Anthropological Institute*, 62, 257 ff.

⁴⁴ See Albright's résumé in *BASOR*, 60, 3.

⁴⁵ Sir Arthur Keith, *The Antiquity of Man* (London, 1920), 15 ff. Cf. Karge, *Rephaim*, 686-7.

Vincent in *Canaan* argued that the substitution of inhumation for cremation at Gezer finds its best analogy in a similar transformation in the funerary rites of the "Chaldéo-babyloniens," where the innovation represents a Semitic invasion. Thus, he believed, inhumation is a characteristic of the Semites while cremation is a non-Semitic rite.⁴⁶ Unhappily, excavation since 1906 has not confirmed this hypothesis. The problem of the use of cremation in the fourth millennium still remains unsolved. Many skeletal deposits, originally thought to have been cremated, have since been considered as calcined by a natural process of oxidation. In the Greek world (the mainland, Crete, Rhodes, and the Aegean Islands) no clear cases of cremation are found before the Sub-Mycenæan period (circ. twelfth-eleventh centuries), and the practice does not become prevalent until the Geometric period (circ. tenth-eighth centuries), when it rivals inhumation in frequency of use.⁴⁷ In Europe cremation as an alternative for inhumation appears with the lake-dwelling occupation of the Alpine region. Myres argues that the custom spread from this region in late Mesolithic times into Britain, Italy, and Asia Minor.⁴⁸ In the Tripolje and Anau cultures it seems to have been used;⁴⁹ but little else can be said at present.

There may be a question as to whether the Gezer remains represent a true case of cremation. In the Early and Middle Helladic periods of Greece there were formerly thought to be many clear cases of cremation. It has since been shown that most of these can well be explained by some other means: e.g., in some cases a substance was burned in a burial cave to fumigate it before another interment was made.⁵⁰ Some such explanation might fit the Gezer situation, but, of course, could not be proved and hardly seems likely.

⁴⁶ P. 267.

⁴⁷ Lorimer, *Journal of Hellenic Studies*, 53 (1933), 161 ff.

⁴⁸ *Cambridge Ancient History*, I, 110 f.

⁴⁹ *Ibid.*, 81.

⁵⁰ From unpublished material in a Master's thesis, written at the Johns Hopkins University in 1935 by A. H. G. Schulz.

REVIEWS AND NOTICES

Crusader Castles. Part II—The Letters. By T. E. LAWRENCE.
Golden Cockerel Press, 1936. £2 2s.

WE are told that Lawrence had started rubbing brasses when he was only nine and a half. Even the letters in this collection begin when he was still a schoolboy and, between 1905–1909, he describes in them to members of his family his impressions of his visits in holidays and vacations to various English, Welsh, French, and Syrian Castles.

Both to the schoolboy and to the undergraduate each castle in turn appears more wonderful than the one he has just seen. In 1906 Tonquédec is “a wonderful fortress,” and Fougères is “splendid”; but la Hunaudaye leaves him in “doubt whether Tonquédec is eclipsed or not.” In 1907 Fougères is thought to be “an exquisite sight, the castle is above and beyond words.” In the next year Carcassone “is absolutely indescribable.” In 1909 Krak des Chevaliers “is, I think, the finest castle in the world”; but after seeing Sahyun only ten days later he considers the latter to be “perhaps the finest castle I have seen in Syria.” Such rhapsodies would lead nowhere if they had not been combined, as they always are in these Letters, with vivid descriptions and thoughtful comments, sometimes even illuminated with an amusing story, such as the one he tells about the Great Tower of Coucy. During the Revolution an attempt was made to destroy the Tower, using half-a-ton of gunpowder. The massive walls not only held firm, but they acted like a gun-barrel, and through them all the insides of the tower were projected at the moon. Unfortunately, one and a quarter centuries later the whole Château was levelled, and H.E. effected only too well what gunpowder had failed to achieve. Despite Crown-Prince Rupprecht’s strong protest, the Germans during their final retirement in 1918 slighted Enguerrand’s fortress in a merciless way. A sketch, included in *The Letters*, gives a general view of the Château as it was; but the only photograph of it,

which is reproduced, merely illustrates the not particularly interesting or typical Porte de Laon.

The least attractive castle describes in these Letters is probably Pierrefonds. Possibly this is partly because of its late date, and partly, as Lawrence cynically remarks, because "Viollet le Duc left it as he thought Louis d'Orleans would have liked." There is a fine photograph of Pierrefonds; but the photographs which we would specially commend are of Fougères, Carcassone, Aigues Mortes, and Kidwelly.

There are one or two misprints: Fougères appears as Fougères on pages 17 and 18 and on the plates; and Nargat on page 59 should be Margat. Also, through the letters, there are references to "keeps"—a term which in the Middle Ages did not have our modern significance. This point has already been discussed in the review of Part I. The student would have liked to find in Part II photographs of Tonquédec, the Donjon at Loches, and la Hunaudaye (Lawrence took four photos of the last-named in August, 1907). These pictures would have been more valuable than some of the drawings which are given; for at least twelve of the drawings are to be found in Viollet le Duc's *Dictionnaire de l'Architecture* (1875). Pictures of Niort's interesting Donjon and Safita's great Tower are among the plates included in Part I; in any case Niort should have been given in Part II.

On page 28 Lawrence mentioned that the figure over the King's Gate, Caernarvon Castle, is that of "Edward." The Edward in question is undoubtedly Edward II and the half-figure representing this king was put up about 1321. The building accounts show that the head was protected by twelve iron spikes—to prevent the birds sitting on it!

In fairness we must remember that these Letters were never intended for publication, nor did Lawrence have any hand in the selection of the drawings and photographs which are chosen to illustrate them. The Letters are merely wayside jottings; and on his return home the fragmentary descriptions contained in them would be supplemented with more detailed comments on the special features of each castle.

The Letters, however, have a deeper significance than a mere archæological one, for they afford us an intimate impression of Lawrence in his early years, before he became a

national hero. All through these Letters there are instances of Lawrence's boundless enthusiasm for a cause, and we recognize his frugality, his shrewd, inquisitive brain, his inexhaustible driving energy, and the supremacy of his mind over his tired body. Eventually these qualities gave us Lawrence of Arabia.

We are indeed glad to possess these delightful Letters ; and students of human nature as well as students of medieval fortifications are alike indebted to the Lawrence family for their publication. The book and its illustrations are admirably presented by the Golden Cockerel Press.

B.

Marriage Customs in a Palestine Village II. By HILMA GRANQVIST, Ph.D. Helsingfors, 1935.

A REVIEW of Part I of this excellent and thorough research appeared in the QUARTERLY STATEMENT, July, 1932, and all the appreciations that were then written apply to this later and longer volume. This minute description of the marriage customs as follows in one village, *Artās*, is made the more valuable and real because in the previous volume we were introduced to all the members of all the village inhabitants over a period of a century. Consequently the examples given to illustrate the various points are drawn from actual people of the village—given by name with their family relationships.

The volume is of interest and importance to the student of Folk lore, much is illuminating to the O.T., while for those who live, or have lived, in the Holy Land its value is great. In the towns of Palestine with their mixed population the clear-cut customs of the various villages become blurred, but many such customs which are obscure and have lost their meaning attain a new interest from such a work as this. In the first half we have descriptions of the Betrothal ; the sadness of the bride—"tears drop down her fingers"—while the women around are joyfully dancing and singing ; the arrival of the bride, if a virgin, at the bridegroom's house on camel back with ostrich feathers in her head and a drawn sword before her face ; the rites of the "threshold" and the meaning of the "sour dough" and so on. All these and many other points are described in the fullest detail with references to literature in many languages.

The chapters headed "Married Life" are even more welcome as many questions here fully investigated have never been so fully described. Most important is the position of the wife in relation to her father and, very specially, her brother ("A man is even more responsible for his sister than for his wife and children, she can always take refuge with him even from her husband," page 254). This protection is specially the case in what the writer calls "The Hardāne problem" when the wife, considering herself unjustly punished, goes away. Then there are chapters on Polygamy and on Divorce, all fully illustrated by living examples, throwing much light upon the whole position of women. The whole work shows that a women's rights and her social position are far more assured than many popular writers have suggested.

It should be added that this volume is greatly enhanced by thirty illustrations from snap-shots of the actual doings of the villagers in relation to marriage. There is also a full list of references quoted and a most exhaustive index which includes a sub-index of Arabic words and another of Bible parallels.

Altogether this is a work of profound and patient research and no one wishing to understand the inwardness of Palestine life can afford to neglect it. At the same time it is primarily a book for the specialist and not a popular work. It seems to me that if Miss Granqvist would make a much shortened popular edition giving the main facts and conclusions but omitting references and certain details, such a book should have a wide circulation and be much appreciated by many who would never struggle through the original work (over 450 closely printed pages). For the student, the scientist and the administrator this exhaustive study with all its detail is not a page too long and is probably unique of its kind.

E. W. G. M.

Department of Lands and Surveys of Palestine. Annual Report of the Commissioner, Mr. F. J. SALMON, M.C., for 1935.

We have received a copy of the Annual Report of the work of the Department of Lands and Surveys and this report is of considerable interest to the Fund. It is stated that, "on 1st March, 1935, the Department of the Commissioner of Lands, which deals with Land Settlement and the general control of

Land Taxation, was combined with the Department of Surveys and the Department of Lands, which deals with Land Registration, expropriation and state domains. The unified Departments are now under the Commissioner for Lands and Surveys." It appears that since the value of land has increased there has also been an increase in the amount of litigation in connection with land settlement, and this has been a cause of considerable delay in the operations of the combined department. The system of rural taxation was changed, throughout the rural areas of Palestine, as from 1st April, 1935.

Some information is given as to the management of the Haifa Harbour reclaimed area estate. As to land registration, it is stated that the first half of 1935 was "characterized by unexampled speculation" in both urban and agricultural land. But this remark refers to a state of things now eighteen months old.

With regard to surveys, the strength of this branch was 89 in the office and 128 in the field. The major trigonometrical network was extended to about thirty kilometres south of Beersheba, and a certain amount of restoration of minor points was found necessary. Precise levelling is being undertaken; the first circuit of 166 kilometres closed with an error of only 27.4 mm.—in British units, an error of about one inch in 103 miles. Fundamental bench-marks were fixed at Jerusalem, Jericho, Gaza, Beersheba, Beisan, and Jenin. The Jerusalem, Jaffa, and Haifa sheets of the map on the scale of 1 : 100,000 were published, and the Safad sheet was in course of printing. A map of Jaffa-Tel-Aviv was published on the 1 : 10,000 scale.

A record of excellent and systematic progress.

C. F. C.

Culture and Conscience : an archaeological study of the new religious past in Palestine. By W. C. GRAHAM and H. G. MAY. University of Chicago Press and Cambridge University Press, 1936. 11s. 6d.

To study the "New Past" which, in its failures and successes, has created the present, and to learn from those failures and successes a remedy for the tendency of religion in

every age to become static and not dynamic—that is the object of the writers of this most interesting and stimulating book. They make the fullest use of anthropological and archæological discoveries in reconstructing the life and culture of Canaan, and in tracing the social development of man in Palestine, and its reaction on his religious ideas and worship throughout the ages : thus illustrating their thesis that “ the dawn of culture is the dawn of conscience.” They trace this development from “ the anthropocentric period,” during which some kind of cult of the dead seems to have been the only religion, from the age of Palæanthropus Palestinus, cave-dwelling, weaponless, non-social, through the period of the emergence of Homo Sapiens, through the Mesolithic Age (12000 B.C.), with the development of agriculture, the use of weapons, and the beginning of art, to the Copper-Stone Age (4000 B.C.), when the making of pottery, the domestication of animals, the grouping of dwellings into villages, marked a great advance. With village life and the emergence of social consciousness began the custom of the fellowship meal, at first perhaps only a communion with the dead, but later a means of communion with the deity. The second stage was reached when the consideration by man of his relationship to his environment led to the recognition of supernatural forces, and the consequent necessity for a cultus. This was the epoch of the monolith or bethel, and of offerings, and the building of the great sanctuaries, perhaps places of pilgrimage, which have been brought to light in recent years. The influence of the Hyksos and their superior civilization, with the consequent increase in man’s needs, led to the development of a cultus which should keep the supernatural powers on man’s side, and help him to prosperity. Thus the third stage was reached : that of the fertility cultus, with its symbols of the serpent, the fish, the dove, the mother-goddess—the dominant religion of Canaan from 1600–1200 B.C.

After the immigration of the Hebrews into Canaan, the successful issue of their struggle for freedom led to the establishment of the Monarchy, and to the recognition of Yahweh as a national, and not only a tribal, deity. During the period of the decline and fall of the Hebrew kingdoms, owing to the increasing pressure of imperialism from the East, a

further stage was reached, with the teaching of the prophets, that attention to cultus was not enough, apart from a social ethic ; so that "regenerative conscience" transformed the culture and the cultus of the Hebrews, and raised "mere love of life to love of the good life." This section of the subject is worked out in two most interesting chapters, in which, on the one hand, the affinities of Hebrew worship with that of surrounding countries are shown in detail, and, on the other hand, the continual movement onwards from henotheism to monotheism under the influence of the prophets is traced.

The last chapter, on "The Divine Plan in the Blurred Record," shows how criticism has disentangled the main sources of the Old Testament, and made it more possible to see the divine plan through a thorough investigation and rearrangement of the records of the past. The point is made that, whether or not archæological discoveries confirm a particular view of the origin of the Old Testament, the fullest use of such discovery must be made if we are to recover any picture of life, as it was lived, and of religion, as it was practised, in Palestine throughout the ages.

The archæological evidence as to cult objects and sanctuaries is given very fully, with numerous illustrations, and the recent discoveries at Ras Shamra are dealt with at some length, in connexion with the affinities of the myths with those of surrounding countries. References are given to much recent literature dealing with excavations and inscriptions, and with the ritual pattern of the Near East.

The authors necessarily have to deal with much controversial material : e.g., in regard to the patriarchs and their dates, the particular connexion with and influence of the Hyksos on the Hebrews and the date of the Exodus. They are not dogmatic on these points, but their own conclusions can be discerned. The authors are convinced that, in Palestine, fertility cults were later than the common meal sacrifice.

Among the many interesting discussions, perhaps that on the Ark is one of the most fascinating. It is thought that the form of the Ark was that of a portable model of a sanctuary, with cherubim in relief on the sides of the model. This idea has been followed up in an article by Dr. Graham May in *The American Journal of Semitic Languages* (July, 1936). It

is suggested that there were local arks, as shrines, until as late as the Deuteronomic Reform. In connexion with the idea that the Ark was the abiding-place of Yahweh Himself, a further reference might have been given to Numbers x, 35, 36 (E) which show that this idea survived till the eighth century.

This bare outline may serve to give some idea of the contents of an extremely competent and important book, which should be read by every student of the Old Testament. The book is well printed and produced. The following are the only misprints which we have noticed: on page 83, note 28, "shake" for "snake"; page 279, "Jonathon" for "Jonathan"; page 286, note 86, "probably." And, in the footnote on page 214, "Principal Simpson" should be "Professor Simpson."

E. W. HIPPISELY.

The Committee have to acknowledge with thanks the following:

The Antiquaries Journal, October, 1936. Review of Sir Leonard Woolley: *Abraham: Recent Discoveries and Hebrew Origins*, by R. Campbell Thompson.

The Expository Times, October-December, 1936. Recent Biblical Archæology, by J. W. Jack (December).

Great Britain and the East, October-December, 1936. Political Parity in Palestine, by Norman Bentwich (Thursday, November 26th).

Iraq, Vol. III, Part II. An Archæological Tour in the Ancient Persis, by Sir Aurel Stein.

The New Judæa, October-December, 1936.

The News Review, Vol I, No. 22.

The Journal of Egyptian Archæology, Vol. XXII, Part I. Some Notes on the Story of Sinuhe and other Egyptian Texts, by A. M. Blackman.

Man, October, 1936. Discovery of Skulls with Surgical Holing at Tell Duweir, by J. L. Starkey. Three Skulls from Palestine showing two types of Primitive Surgical Holing, by T. Wilson Parry.

Religions, October, 1936.

The Scottish Geographical Magazine, 52, 5-6.

The American Journal of Philology, LVII, 4.

The American Journal of Semitic Languages and Literature, LIII, 1. The Canaanite God Hauron (Horon), by W. F. Albright.

Bulletin of the American Schools of Oriental Research, October, 1936. The Early Evolution of the Hebrew Alphabet, by W. F. Albright. The Chronology of Palestine in the Early Bronze Age, by G. Ernest Wright. New Canaanite Historical and Mythological Data, by W. F. Albright.

Bulletin of the Metropolitan Museum of Art, New York, December–November, 1936.

Geographical Review, October, 1936.

The Jewish Quarterly Review, October, 1936. Two Books on Palestine, by A. M. Margalith.

Journal of the American Oriental Society, 56, 3.

Journal Asiatique, CCXXVIII, 1.

Le Monde Oriental, XXIX, 1935.

Revue Biblique, October, 1936. Le Monastère de Beth-Shemesh, by F. M. Abel.

Nouvelle Revue Théologique, September–November, 1936.

Archiv für Orientforschung, XI, 3. Die Reliefs der assyrischen Könige, by G. Furlani and E. F. Weidner.

Orientalische Literaturzeitung, October–December, 1936. In der Werkstatt des Hephaistos von Ugarit, by K. Galling. Review of E. O. James : *The Old Testament in the Light of Anthropology*, by L. Kohler. J. A. Montgomery and Z. S. Harris : *The Ras Shamra Mythological Texts*, by O. Eissfeldt.

Zeitschrift für die alttestamentliche Wissenschaft, 13, 1–2. Some Principles of Hebrew Metrics, by T. H. Robinson.

Biblica, 17, 4. Review of Engberg and Shipton : *Notes on the Chalcolithic and Early Bronze Age Pottery of Megiddo*, by R. Köppel.

Archiv Orientalni, VIII, 2. Die nichtsemitischen Monatsnamen der Nuzi-Texte, by L. Oppenheim.

Al Mashriq, July–September, 1936.

Bible Lands, October, 1936.

Bulletin of the Jewish Palestine Exploration Society, IV, 1–2.

NEA ΣΙΩΝ, June–September, 1936.

- The Excavations at Tall Chagar Bazar and an Archæological Survey of the Habur Region*, by M. E. L. Mallowan.
Supplement to the Geographical Journal, No. 53, July, 1936.
Catalogue of Exhibition of Recent Work of the Egypt Exploration Society, October, 1936.
Proceedings of the Royal Canadian Institute, 1936.
Transactions of the Royal Canadian Institute, October, 1936.
The Revival of Palestine, by Sir Flinders Petrie.
The Jews in the Palestine Campaign.
Comments on Dr. Canaan's Pamphlet "The Palestine Arab Cause," by a native of Palestine.
Die Palästina-Literatur, V, I, by P. Thomsen (three copies).
Les Tours Royales de Josèphe Flavius, by M. Solomiac.
Britain's Problem in Palestine, by Scrutator.
Coins of Palestine, I, by M. Narkiss.
Exegese, by J. de Groot.

RAISED MAPS OF PALESTINE

Constructed from the Surveys of the Palestine Exploration Fund, and other Sources by the late **GEORGE ARMSTRONG** (of the Survey Party)

These models are cast in fibrous plaster, and are carefully coloured by hand so as to give a realistic representation of the land, water, woods, etc. With each map is issued a reference card and key to the names. Specimens are on view at the Office of the Fund.

THE LARGE MAP.—Ideal for Schools, Colleges, etc.

Dimensions.—8 feet by 4 feet 4 inches.

Scale.— $\frac{1}{8}$ of an inch to one mile, or $\frac{1}{168960}$.

The vertical scale is three and a half times greater than the horizontal.

Price, £17 17s. 0d. Price to Members, £15 15s. 0d.
Case and Packing, £2 15s. 0d. extra.

THE SMALL MAP.—Light and portable ; requiring less space for accommodation than the larger model.

Dimensions.—3 feet 6 inches by 2 feet 6 inches.

Scale.— $6\frac{1}{4}$ miles to an inch, or $\frac{1}{396000}$.

Price, £8 18s. 6d. Price to Members, £7 17s. 6d.
Case and Packing, £1 5s. 0d. extra.

Published, sold, and carefully despatched to any part of the World, "carriage forward", by

THE PALESTINE EXPLORATION FUND,
2 HINDE STREET, MANCHESTER SQUARE, LONDON, W.1

TOUR TO THE NEAR EAST

FEBRUARY 12 to MARCH 20. 72 Guineas.

It has been thought inexpedient to visit Palestine and Iraq this spring owing to the political situation and so instead we are planning a tour to include :—

EGYPT—Cairo and the Pyramids, **Luxor**, Karnak and Thebes.

CYPRUS—An Island filled with historical and archæological interests as well as picturesque peasant life.

Istanbul (Constantinople) ; **Pryæus** for **Athens** ; **Naples** for **Pompeii** and **Herculaneum**.

The party will be conducted by Dr. C. F. Fothergill and all who join can be sure of a most enjoyable and intensely interesting tour from start to finish.

APRIL 5 to MAY 4. 68 Guineas.

CYPRUS and **EGYPT**. Conducted by Mr. Guy Fothergill.

Parties are also being planned to Corsica in April ; Yugoslavia and the Engadine in June, and Saas-Fee (Switzerland) in the first half of July, and to various other countries later in the summer.

For further particulars and prospectus apply—

CAMPS & TOURS UNION

126 BAKER STREET, LONDON, W.1 (Welbeck 7088)

OR
HENSOL, CHORLEY WOOD, HERTS (Chorley Wood 24)

TO ADVERTISERS

For particulars of rates and space for advertising in this journal, apply to:—

The Secretary,

PALESTINE EXPLORATION FUND,

2 Hinde Street, London, W.1.